DETERMINANTS OF MUNICIPAL POLICY: A FLORIDA CASE STUDY

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DETERMINANTS OF MUNICIPAL POLICY:
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The purpose of this dissertation is to investigate the relationship among several variables that are relevant for policy decisions for urban services in the 21 Florida municipalities with populations over 25,000 in 1960 Three groups of independent variables were examined demographic variables, socio-economic variables, and political variables. Policy outcomes (operationalized as per capita expenditures for the urban services common to most cities) were treated as dependent variables.

The analysis was approached within the framework of Easton's systems theory Socio-economic and demographic characteristics of the municipalities were viewed as inputs into the system and policy outcomes were viewed as sytem outputs. The political character of the municipalities was treated alternatively as input (independent)

and intervening variables in the analysis. After selection of 21 independent variables for examination, regression analysis was used to isolate the impact of the various demographic, socio-economic, and political variables on policy output in the Florida cities.

The investigation showed that over 90 percent of the variation in per capita expenditure in Florida cities studied could be predicted by the 21 selected variables examined in this study. That group of variables classified as socio-economic in nature was generally the best predictors of municipal policy, while the political variables were generally the most unreliable predictors of policy as operationalized in the study. Four variables were found to explain most of the output variation when the effects of multicollinearity were controlled. These were percent of white collar employees in the labor force, percent Negro in the population, median age of the population, and the social class score of the city.

The analysis indicated that differences in spending and revenue policies in Florida cities would be accounted for by the differences in measurable environmental variables. This leads to the conclusion that when similar forces are acting upon cities, the decision-makers are reacting in similar ways. This suggests that cities are not really independent entities, but rather they are subsystems subject to much the same variables operating throughout the macrosystem.

CHAPTER I

INTRODUCTION

A large and ever increasing number of Americans live in incorporated municipalities. Many more who do not live within the bounds of an actual municipality spend the greater portion of their waking hours working or playing in its environs. The lives of at least 69.9 percent of the population in the United States who live in the places that the Bureau of the Census arbitrarily defines as urban areas can be, potentially at least, intimately influenced by these governments.[1]

The municipality is certainly the most pervasive form of government in the urban areas, and it is responsible for a wide array of vital social functions. Most municipalities are the primary providers of the service functions of police and fire protection, sewerage, sanitation services, parks, recreational programs, and construction of streets and sidewalks as well as such important regulatory functions as zoning and licensing. It is the municipality, probably more than any other level of government, that affects the physical growth, appearance, and reputation of the urban community. Consequently, municipal government has an enormous and profound effect upon the life style of the majority of our citizens. It is no wonder that an increasing number of scholars are turning their talents to the uncovering of the "mysteries" of local political, social, and economic systems.

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[1] An urban area is generally an incorporated community with a population of over 2,500, or a densely settled unincorporated area. See the formal definition in U. S. Bureau of the Census, County and City Data Book, 1967: A Statistical Abstract Supplement (Washington, D. C.: U. S. Government Printing Office, 1967), xx.

Jacob and Lipsky pointed out that "Rather than being the laggard of the discipline that some political scientists perceive it to be, the study of state and local politics has re-entered the mainstream of political research."[2] They conveniently classified the studies of local (and state) political systems into three overlapping categories, according to the focus of the particular study. These categories were: policy output analysis, political behavior in institutions, and power structures.[3] The great number of recent studies under these categories indicates that a vast amount of productive research has been done and is under way, a development which will sharpen the perspective on the important aspects of the origins of policy and behavior of political elites on the local level.

---

[2] Herbert Jacob and Michael Lipsky, "Outputs, Structure, and Power: An Assessment of Changes in the Study of State and Local Politics," Journal of Politics, XXX (1968), 510.

[3] Ibid., pp. 510-538.

The relationship between policy output and the political system has captured the attention of a great many students of government in the 1960's. These studies have been, for the most part, innovative and represent a noticeable advance in methodological sophistication. Froman summarized their approach in the following question:

> Do different kinds of policies have associated with them different kinds of "environmental" variables in such a way that we can say something about how certain policies are related to other phenomena?[4]

This paper will focus on Froman's question: On the municipal level, are policies associated with other phenomena? If they are, what other phenomena?

A Model for the Analysis of Policy Outcomes of Municipal Political Systems

Some recent studies that have tried to link policy outcomes with some other measurable variable have been conducted within the framework of Easton's approach to a political model.[5] One author pointed out one of its uses: "The explanation of public policy can be aided by the construction of a model which portrays the relationships between policy outcomes and the forces which shape them."[6] In order to use such an aid one must adequately research and suitably test a model which can be operationalised in the real political world. Despite the difficulties involved, a model is almost indispenable to any meaningful and worthwhile research. Considering the almost mountainous amount of data that can be collected about political systems, the absence of an operational model would make research slow and difficult at best.

---

[4] Lewis A. Froman, Jr., "An Analysis of Public Policies in Cities," *Journal of Politics*, XXIX (1967), 107.

[5] David Easton, *A Systems Analysis of Political Life* (New York: John Wiley and Sons, Inc., 1964) and David Easton, *A Framework for Political Analysis* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1965).

For purposes of this paper it is necessary to restrict the use of the term model. Several distinct ways in which the term model is used will be defined. The use of model in this dissertation will focus on the last of these.

A model may be a person or thing to be emulated. For example, George Washington was a model patriot. A model may also be the likeness or a miniaturization of a person or thing. For example, an electric train is a model of a real, but much larger, steam or electric engine. It should be quite obvious that these are not the types of models that are referred to in this paper.

---

[6] Thomas R. Dye, *Politics, Economics, and the Public Policy Outcomes in the American States* (Chicago: Rand McNally and Co., 1966), p. 2.

The term model may also be used in place of the term theory. The model represents a truncated theory. The commitment to this theory may be temporary, but it is still the intent of the user to identify the model as a theory. An example of this use of model is the atomic model of the universe. In this case the atomic model is a representation of a theory.

The term model also can be applied to a purely mathematical formulation without any relevance to its content. These models represent no more than formal relationships, and until the variables are identified in the model there is no assertion that it is a representation of anything in the real world. The problem is that the real political world is not always easily pieced into a mathematical form. A particular mathematical form may or may not be operational.[7]

The use of the term model is becoming more common in the literature of Political Science, but many times it is used only as a synonym for theory. It is possible to distinguish between theories and operating models. A model may be defined as:

---

[7] This discussion of models relies heavily on Britton Harris, "Quantitative Models of Urban Development" in Harvey S. Perloff and Lowdon Wingo, Jr. (eds.), *Issues in Urban Economics* (Baltimore: The Johns Hopkins Press, 1968), pp. 363-365. See also Fred Riggs, *Administration in Developing Countries: The Theory of the Prismatic Society* (Boston: Houghton Mifflin Co., 1964), pp. 3-95; Karl W. Deutch *The Nerves of Government: Models of Political Communication and Control* (New York: The Free Press of Glencoe, 1963) and Herbert A. Simon and Allen Newell, "Models, Their Uses and Limitations," in Leonard D. White (ed.), *The State of the Social Sciences* (Chicago: The University of Chicago Press, 1956).

> a structure embodying a set of variables having a specified set of interrelations, but which variables and relationships need have only limited correspondence with the empirical phenomena and relations among empirical phenomena to which they refer.[8]

A theory may be viewed in a similar framework:

> A theory is a set of interrelated constructs (concepts), definitions, and propositions that presents a systematic view of phenomena by specifying relations among variables, with the purpose of explaining and predicting the phenomena.[9]

When used as an operational concept, a model is an experimental design based on a theory. The model sets forth relationships among specified variables even though these variables may not be completely comparable to phenomena in the real world. A theory is more general than a model, and a model is used to test a theory. This definition stresses the two important aspects of a model as used in this paper. First, there is a connection between models and theories and second, the theory upon which the model is based is experimental or testable in nature.[10]

---

[8] Robert T. Golembiewski, William A. Welsh, and William J. Crotty, A Methodological Primer for Political Scientists (Chicago: Rand McNally and Co., 1969), p. 443.

[9] Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1966), p. 11.

[10] See Harris, pp. 363-365.

The building of a model is the first major step toward conceptualizing possible relationships among phenomena, and the utility of model building prior to the undertaking of research is in guiding one's research. A model may suggest hypotheses that can be empirically tested by the data from the real political system. If they are proved correct, the model can be retained and, subsequent to clarification, can be assumed to be a simplification of the real system. If the hypotheses are not proven correct, a model must be rejected as not sufficiently representative of the real system.[11]

The operationalization of the political system on any level is quite difficult, and at the present state of sophistication in the social sciences any operational conceptualization is usually quite primitive. The core of the problem can be seen by looking at an accepted theory of the political system. This system can be viewed quite simply as an input-output system as Easton has shown. It can be noted in Figure 1.1 that the inputs (demands and support in Easton's theory) and the outputs (decisions and actions in Easton's theory) must be operationalized into some measurable variables if a model is to be used to test relevant relationships in the real world of political systems.[12]

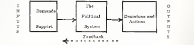
---

[11] See Dye, p. 3.

[12] An excellent discussion of theory is given in Eugene J. Meehan, The Theory and Method of Political Analysis (Homewood, Illinois The Dorsey Press, 1965), pp. 127-167

Figure 1.1

THE POLITICAL SYSTEM[a]



[a] David Easton, A Framework for Political Analysis (Englewood Cliffs, New Jersey, 1965), 112

As a step in model building, inputs are usually operationalized as socioeconomic variables and the outputs as the level of expenditure for governmental programs or measures of the program quality. The operationalization of the political system varies noticeably depending upon the level of government described--state, local, or national. It usually has something to do with structure, party system, electoral system, etc. The problem is that the variables that are to be used as inputs are not inputs at all, but indicators or representations of true inputs. Demands are, as Easton points out, "expressions of opinion that an authoritative allocation with regard to a particular subject matter should or should not be made by those responsible for doing so."[13] Operational demands and support are only indicators of the characteristics of people in the system who might, and might not, articulate certain demands or support.

---

[13] Easton, A Systems Analysis of Political Life, p. 38.

Similarly, policy operationalized in a model has certain drawbacks. Jacob and Lipsky quite properly point out that an output operationalized as per capita program expenditures takes into account only one dimension of any given policy. They indicate that program quality, program impact, and program benefits could and should be used as measures of policy. Unfortunately data of this caliber are not easily obtainable by the ordinary scholar.[14]

Despite the noted drawbacks in operationalizing the Eastonian approach when emphasizing policy outcomes, this approach has proved to be a fruitful field for model building and consequently for research.[15] If one considers that the primary usefulness of a model is to simplify, clarify and suggest relationships between policy and forces that determine policy in the political system, then this conceptualization is a good starting point. Dye and others have stressed that to be useful a model must be researchable, and it "should contain propositions about politics and public policy which can be directly tested in political research."[16] As will be seen below, the proposed model of a municipal political system is researchable with the normal tools of analysis that are available to the political scientist.

---

[14] See Jacob and Lipsky, pp. 514-516.

[15] Easton, A Systems Analysis of Political Life, p. 38.

[16] Dye, p. 4.

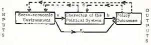
In further operationalizing and refining Easton's model[17] of the political system, it is possible to view socio-economic variables as inputs. These variables indicate forces that are relevant to the structure and behavior of the particular system that is being described, as well as relevant to peculiar responses of the system which may be described as policy outcomes. The relationship may be seen in the diagram shown in Figure 1.2.

---

[17] Easton's work is identified as a theory in this paper, although he refers to his conceptualization as a model.

Figure 1 2

A MODEL FOR ANALYZING POLICY OUTCOME
IN THE MUNICIPALITY



e. g.

Size
Fertility
Density
Occupation
Population
Income
Ethnic Status
Value of Homes
Age of Population
Type of Dwelling
Education
Industrialization
Urbanization
Etc.

e. g.

Structure of Government
Electoral System
Interest Group Structure
Elite or Power Structure
Political Style
Etc.

e. g.

Police Policy
Fire Policy
Highway Policy
Sewerage Policy
Sanitation Policy
Recreation Policy
Capital Exped Policy
Tax Policy
Health and Welfare Policy
Revenue Mix Policy
Etc.

It should be noted that this model is almost identical to the model used by Dye in his somewhat successful research on state policy outcomes.[18] He explains the model as follows:

---

[18] Dye, p. 4.

> Inputs are received into the political system in the form of both demands and support. Demands occur when individuals or groups, in response to perceived environmental conditions, act to promote goals, interest, or actions. Support is rendered when individuals or groups accept the outcomes of elections, obey the laws, and pay their taxes. The political system includes all of those institutions structures, and activities which function to transform demands into authoritative decisions requiring the support of society. Any system absorbs a variety of often conflicting demands, and in order to transform these demands into outputs (public policies), it must arrange settlements. The political system receives support insofar as it provides satisfying outputs and activates deeply rooted attachments to the system itself.[19]

Linkages at *a* and *c* suggest that the political system and policy outcomes may be determined by the socio-economic character of society. Linkage *a* suggests that the character of the political system is at least in part a function of the character of society. Linkage *b* indicates that the character of the political system is a predictor of the type of policy that will be accepted in the community. Linkage *c* takes issue with this, however, and indicates that it is possible, perhaps probable, that some policy is determined by the socio-economic character of the society, independent of any particular type of political system.

The linkage at *d* suggests that the model is reversible. It is not out of the realm of possibility that over time certain types of policy outcomes will force the character of the political system to change. For example, a municipality may construct and operate a modern sewerage system under a weak mayor form of government. As the city grows, it will become necessary to hire an administrator to oversee the operation of the department. It is only a small step, then, to give the administrator more duties and he may then in effect, if not in name, become the city manager. In this case the policy to provide modern sewerage facilities could change the character of the political system, in structure and in operation.

---

[19] *Ibid.*

Linkage at *e* indicates that it is possible for policy outcome over time to change the socio-economic environment. For example, a municipality could have a policy of charging only minimally for property taxes. Because of the low rate of property taxes, certain industries move into the taxing jurisdiction and people would move into the city to be near the work provided by the new industry. These migrants might differ from the old residents of the city, and the socioeconomic environment would be changed by the policy of low taxation. This linkage has not yet been investigated extensively, but if one assumes that there is competition for that mobile part of the population that has a potential for moving among cities, and that industries are mobile among municipalities, this linkage may be possible.[20]

---

[20] See Charles M. Thiebout, 'A Pure Theory of Local Expenditures," *Journal of Political Economy*, LXIV (1956), 416-424, and Julius Margolis, "The Demand for Urban Public Services, ' in Harvey S. Perloff and Lowdon Wingo, Jr. (eds.), pp. 545-564.

The linkage at f is a sometimes neglected possibility. The linkage at e indicates that citizens change or support the political system, but if they cannot change the system and do not support it, what happens? Linkage f suggests that these people would move out of the system. Considering the mobility of the American people in the past two decades, this is a possibility. If dissident elements in the community move to neighboring communities because they do not like the power structure, the political style, etc., then those left in the community may give even more support to the system that "got rid of the trouble-makers."

The model as outlined here is circular in nature, but in theory is without direction. Any one component of the system could cause a change in any other component over some time span. The socio-economic environment could cause a change in the character of the political system and in turn the changes in the political system could cause changes in the socio-economic environment. This process would seem to hold true for any set of two components in the system.

Delineation of the System for Comparison

In order to develop an explanatory model of policy outputs at the municipal level, it is useful to turn to comparative analysis. Dye made this point clearly in his work on policy outcomes on the state level

> Studies which merely describe one political institution or event, without identifying or explaining similarities and differences among political data, cannot contribute substantially to the development of any explanatory theory of politics. Even the most insightful descriptions of specific political events cannot provide explanations which rise above the level of hunches.[21]

Comparative study entails, at least, the existence of a common framework in which to view the basic elements of the structure, to be comparative in a meaningful way means that variables must be part of a common environment.

Comparative studies have been undertaken since the time of Aristotle, and the importance of the comparative method does not seem to have diminished since that time. Aristotle compared the constitutions of the Greek city-states, which were subsystems (elements) of the larger Greek political, economic, and social system.

It is possible today to do comparative studies on any one of several levels. The study of comparative government as a field in the political science discipline has traditionally involved the comparison of nations as elements of the world political system.

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[21] Dye, p. 11.

Dye,[22] Jacob and Vines,[23] and others have shown the utility of viewing American state political systems as comparable subsystems in a national political system. It would seem that any nation with a federal form of government would be amenable to this type of study. Some excellent results have been obtained by a few researchers who have viewed municipal political systems as elements of a larger political system. This has been, however, a dangerous and maybe even misleading approach in some respects.

The municipalities are not always unvarying units in the nation-wide political system awaiting political analysis. In the United States, municipalities are directly controlled by the state governments and to some extent by the national government. It would seem, therefore, that the municipal system is first and foremost a subsystem in the state political system and also a subsystem of the national political system. Municipalities in the sparsely settled western states are not always patterned after municipalities in New England. State constitutions, state statutes, and customs are markedly different from state to state. Laws in one state could prohibit municipal governments from engaging in certain types of activity, while the laws of a neighboring state may require that municipalities engage in the same activity. This is not to say that comparative research of municipal governments on a national scale is impossible, it should only be indicated that it may be somewhat more difficult than the comparison of state political systems within a common national system.

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[22] Ibid.

[23] Herbert Jacob and Kenneth Vines (eds.), Politics in the American States: A Comparative Analysis (New York: Little, Brown and Co., 1965). See also Frank Munger (ed.), American State Politics: Readings for Comparative Analysis (New York: Thomas Y. Crowell Co., 1966) and Ira Sharkansky, Spending in the American States (Chicago: Rand McNally and Co., 1968).

Figure 1: 3 notes that the comparison of municipalities (local systems) in a national federal system would be similar to a comparison of state or provincial systems of two separate national systems. Certain types of comparison can be validly made, and such studies could add greatly to knowledge, but the researcher must be aware that the elements that he is comparing may not always be the same thing. A wide variety of controls seem to be necessary to ensure that one is using similar units for analysis.

The variety of reporting units that are used in the several states in the United States also makes comparative municipal studies on a national scope quite difficult. Wood found that even within the three state New York Metropolitan Region severe problems in the analysis of financial and revenue data from comparable units of government were encountered. He found that ". . . once we dropped below the county, the legal responsibilities of local governments in New York and New Jersey differed so sharply that direct comparisons were impossible."[24] The differences in service functions allotted to cities and the various reporting systems used by the states seem to force the researcher to use very general revenue and categories. In addition, the central sources of these data are limited to the larger municipal units.

Figure 1.3

COMPONENTS OF THE POLITICAL SYSTEM

NATIONAL
POLITICAL
SYSTEM
(FEDERAL)

STATE[b]
POLITICAL
SYSTEMS

LOCAL[a]
POLITICAL
SYSTEMS

NATIONAL
POLITICAL
SYSTEM
(UNITARY)

LOCAL[a]
POLITICAL
SYSTEMS

STATE[b]
POLITICAL
SYSTEMS

[a] The local political system may be viewed as a governmental jurisdiction with a small geographical area of influence. Many times these may overlap, e. g. city, township, special district, and county.

[b] The State political system may be viewed as a governmental jurisdiction with a wider geographical area of influence than the local political system. These systems do not overlap, e. g. state or province.

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[24] Robert C. Wood, 1400 Governments (Cambridge, Massachusetts: Harvard University Press, 1961), p. 204.

Since 1902 the Bureau of the Census has published financial data for selected expenditure and revenue categories for the larger municipal units.[25] The unit size of the reporting sample, however, has varied considerably over the years. Between 1902 and 1931 reports are available for all cities with populations over 30,000. From 1932 to 1941 these same reports are available for cities with populations of at least 100,000. In 1942 this series began reporting on all cities with populations over 25,000 and since 1960, yearly reports are available only for cities over 50,000.[26] Despite this later deletion in reporting units, the County and City Data Book has covered cities with populations over 25,000 at five year intervals.[27]

Data concerning population and housing are in theory available for all municipal units in the United States. Small municipal units in untracted areas may be analyzed from unpublished reports that are obtained at cost directly from the Bureau of the Census. Most categories of population and housing data for cities in tracted areas with populations over 25,000 are found in published census documents.[28]

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[25] U. S. Bureau of the Census, City Government Finances (Washington, D. C.: U. S. Government Printing Office). The title of this annual series varies. These same data are also available in the Municipal Yearbook (Chicago: International City Manager's Association). This is also an annual publication.

[26] For a description of this series see U. S. Bureau of the Census, Historical Statistics on State and Local Government Finances: 1902-1953 (Washington, D. C.: U. S. Government Printing Office, 1955), pp. 1-10.

[27] See County and City Data Book, 1967.

[28] Ibid.

It would be desirable to conduct a comparative analysis of municipalities across the United States and control for state differences, but time and resource limitations make it necessary to deal with cities within an environment that can be controlled. In 1967 there were 18,048 municipalities in the United States, including the District of Columbia. Illinois had the most municipalities with 1,256, Rhode Island had the fewest with 8, and the average for all of the states was 360.94.[29] Any one of the several larger populated states had an ample number of municipalities for useful comparative purposes.[30]

The Choice of a System for Comparison

The state of Florida is in many respects an ideal setting for a comparative study involving municipal units of government. The state contains a diversity of municipalities with almost every structure represented. At the time that this study was undertaken, the strong-executive, council-manager, commission, and a commission-council (a strange bicameral system)[31] were all represented by one or more municipalities in the state.

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[29] See Appendix A for the number of municipal governments, by population size, by state, in 1967.

[30] Several authors have used comparative schemes of analysis for municipal governments within states. For example see Harvey E. Brazer, City Expenditures in the United States (New York: National Bureau of Economic Research, Inc., 1959) for selected aspects of Massachusetts, California, and Ohio. Also see Glenn W. Fisher and Robert P. Fairbanks, Illinois Municipal Finance: A Political and Economic Analysis (Urbana: University of Illinois Press, 1968).

In 1967 there were 383 municipalities in Florida, but several were very small. The 1967 Census of Governments found that there were 163 municipalities with 1960 populations of less than 24,999, and there were 22 units with populations over 25,000 in 1960.[32] The latter group is important to this study because census data by governmental unit are available for all municipalities of this size.

Preliminary analysis of the available published data indicated that 21 of these cities could be used in a study of this type. Key West, a densely populated island several hundred miles from peninsular Florida, did not seem to have the same municipal problems that occurred in the mainland cities and was excluded from intense study.

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[31] This unique structure has since been replaced by a strong-executive form of government. See Richard Martin, *Consolidation: Jacksonville-Duval County* (Jacksonville, Florida: Crawford Publishing Co., 1968).

[32] See Appendix A.

Florida municipalities under the Constitution of 1885 had no powers of home rule. Their position was summarized by two authors in the following manner, ". . . , the municipality bears the burden of establishing in the first place the existence of a power claimed."[33] In this early constitution, the state legislature was given broad powers over the cities:

> The legislature shall have power to establish, and to abolish municipalities, to provide for their government, to prescribe their jurisdiction and power, and to alter or amend the same at any time.[34]

Florida courts generally have held that under the 1885 Constitution powers not specifically granted in the municipal charter or provided by general law may not be exercised by Florida municipalities.[35]

Two methods of organizing a municipal corporation were available in Florida during the period studied. Under general law applying to municipalities in most counties[36] 150 citizens who were freeholders and registered voters had to reside in the specified area for it to become a municipality. A notice of an organization meeting had to be published for 30 days in a newspaper in the county or posted in three places. At the time and place of the organization meeting, if two-thirds of the citizens in the area attended the meeting and elected officials, the municipality was founded under the general laws of the state.

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[33] Manning J. Dauer and George J. Miller, "Municipal Charters in Florida: Law and Drafting," University of Florida Law Review, VI (1953), 416.

[34] Constitution of the State of Florida (1885), Article VIII, Section 8.

[35] See Dauer and Miller, 415-416. Also see Wilson K. Doyle, Angus M. Laird, and S. Sherman Weiss, The Government and Administration of Florida (New York: Thomas Y. Crowell Co., 1954), pp. 389-390.

[36] The term "most counties" must be used because the method did not apply in counties with a population between 150,000 and 250,000. See Dauer and Miller, p. 420.

A second and more popular method of organizing municipalities was available. A city charter was drafted and presented to the legislature for passage under the situation defined in the individually drawn charter.[37] All cities described in this study had the latter type of charter.

The Florida Legislature, under the authority of the 1885 Constitution, passed an enormous number of general authorizations for "all" cities. More than 25 specific authorizations were catalogued by Dauer and Miller.[38] Upon inspection, it turns out that these are the expected powers that municipalities must have in order to operate. These include the power to inspect public buildings, to light streets, etc. These functions, presumably, could not be performed without permission of the legislature.

If functions were to be undertaken by the municipalities that were not categorized under the general statutes, then a special act of the legislature was sought. This usually took the form of an amendment to the city charter. If the request was non-controversial, all that was necessary was to secure the approval of the legislative delegation of the county in which the municipality was located. The delegation would introduce a special bill and passage in the legislature was automatic.[39]

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[37] Ibid., pp. 420-422.

[38] Ibid., pp. 431-432.

In the case of a controversial bill, or one not supported by all of the members of the local legislative delegation, commentators on the legislature note:

> If a dispute arises in the house over the passage of a local bill, the house seldom concerns itself with the merits of the measure. It will vote with the more popular of a two-man delegation. An exception to this general rule arises when the objecting party seeks to have a referendum attached to the bill. In such cases the house is prone to let voters in the locality settle the dispute and will vote for the referendum provision.[40]

The governors have not concerned themselves with such legislation, and local bills always become law without the governor's signature.[41]

Although the local government provisions of the 1885 Constitution were "among the more detailed portions of that document,"[42]

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[39] *Ibid.*, p. 460.

[40] Doyle, *et al.*, 72. A case study of this situation is presented in Martin, *loc. cit.*

[41] Doyle, *et al.*, *loc. cit.*

[42] Manning J. Dauer and William C. Havard, "The Florida Constitution of 1885. A Critique," *University of Florida Law Review*, VIII (1955), 65.

Florida municipalities were usually able to function with powers similar to those in states where the constitution was more general. The local bill policy placed the area legislative delegation in a unique position of coordinator for all local government activities in the area.

Usual practice dictated that the local legislators would hold hearings on local bills requested by elected officials and special interest groups. In some cases the local bill provision was used to obtain a large measure of functional cooperation and even consolidation among governmental units.

It should be noted that the above explanation of lack of inherent powers was carried out in the past tense. The situation described above was important during the study period, but the new Constitution of the State of Florida has completely revised this situation. The new Constitution states,

> Municipalities shall have governmental, corporate, and proprietary powers to enable them to conduct municipal government, perform municipal functions and render municipal services except as otherwise provided by law.[43]

In the future, the numerous amendments that change individual charters will no longer be necessary, as municipalities can now undertake any function that is not unlawful.[44]

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[43] Constitution of the State of Florida (1968), Article VIII, Section 2 (b)

[44] See Ralph A. Marsicano, "Municipal Home Rule Powers Under the Constitution of 1968," Florida Municipal Record XLIII (August, 1969), 3-9.

Of importance to this study is the fact that although Florida municipalities had very limited formal home rule under the Constitution of 1885, the informal legislative "rules of the game" allowed great discretion in this matter. It can be assumed that the inflexible constitution of another area should not be a major factor in determining individual municipal policy.

The actual structure of the executive body in the Florida state government also is an important parameter to be considered. This structure is usually described as a weak-executive system. The Constitution of 1885 provided that the governor and his cabinet must be elected by the voters. The cabinet consists of a Secretary of State, Attorney General, Comptroller, Treasurer, Superintendent of Public Instruction, and the Commissioner of Agriculture. All are elected at the same time for four year terms, but the governor could not serve two successive terms, no such prohibition is made for the cabinet members.

The Constitution and statutes further provided that various members of the cabinet and the governor were to serve on numerous ex-officio boards and commissions. In most cases not all of the cabinet served on any one board or commission and the governor presided as chairman, but had only one vote. This institution appears to have further weakened the executive; policy was made by commissions composed of cabinet members who enjoy long tenure of office while the governor by virtue of constitutional provisions may not have long tenure.[45]

The situation described above does weaken an individual executive (the governor), but the resulting plural executive can have considerable power. There appears to be no undue interference with local government by this plural executive, and it does provide stable relationships over long periods of time.

In 1949, V. O. Key very aptly described Florida politics as "Every Man for Himself."[46] Florida politics, he suggested, were different from politics in other southern states. The main difference being that the political structure was made up of "an incredibly complex melange of amorphous factions."[47] Florida, of course, has changed since 1949, but his overall view may still be somewhat correct.

Key suggested that three main factors made Florida politics so uniquely factionalized. First, Florida has an immense geographical area, and this makes communication difficult even in the 1960's. Second, the state is highly urbanized with relatively few people actually engaged in agriculture. Florida has seen a very high amount of immigration in every decade of the 20th century.[48] If anything, the above description is more true of Florida in the 1960's than in the late 1940's when Key observed the situation. This can be seen quite clearly in Table 1.1. Data are shown for two of the categories that Key believed indicated that Florida was different in the 1940's, and these are contrasted with the same data in the 1960's. It can be noted that the relative positions of the southern states have not changed greatly in 20 years' time.

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[45] See Doyle, et al., pp. 84-97.

[46] V. O. Key, Southern Politics (New York: Alfred A. Knopf, Inc., 1949), pp. 82-105.

[47] Ibid., p. 82.

In any analysis of Florida political systems, the uniqueness of the state must be taken into account. For this study this is no major drawback because no assumption is made that Florida municipal policy is identical to municipal policy in other states. The generalizations that are made about municipal policy may hold true in other states in the national system, but this should be treated as an untested hypothesis not as an accepted fact.

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[48] Ibid., pp. 83-86.

Table 1.1

FLORIDA IS DIFFERENT. COMPARISON WITH OTHER SOUTHERN STATES IN PROPORTION OF POPULATION URBAN AND AVERAGE PER-CAPITA INCOME.

State	Percent Population Urban 1940[a]	Percent Population Urban 1960[b]	Average Per Capita Income 1947[a]	Average Per Capita Income 1967[c]
Florida	55.1%	73.9%	$1104	$2796
Texas	45.4	75.0	1128	2704
Louisiana	41.5	63.3	892	2445
Virginia	35.3	55.6	1064	2776
Tennessee	35.2	52.3	916	2369
Georgia	34.4	55.3	885	2513
Alabama	30.2	54.8	837	2166
North Carolina	27.3	39.5	890	2396
South Carolina	24.5	41.2	778	2167
Arkansas	22.2	42.8	710	2090
Mississippi	19.8	37.7	659	1895

[a] V. O. Key, Southern Politics (New York: Alfred A. Knopf, Inc., 1949), p. 85.

[b] U. S. Bureau of the Census, County and City Data Book, 1967. A Statistical Abstract Supplement (Washington, D. C.: U. S. Government Printing Office, 1967), p. 2.

[c] Office of Business Economics, Survey of Current Business, XLVIII, No. 4 (April, 1968), 10.

CHAPTER II

SCOPE AND METHOD OF STUDY

Survey of the Literature

Numerous studies in the recent past have been designed to determine what factors affect policy decisions in state and local government. Those major studies that are relevant for explaining municipal policy will be examined here.

Four major works have focused on expenditure policy in single metropolitan areas. Sacks and Hellmuth found that a large part of the intergovernmental expenditure policy variation in Cleveland could be accounted for by just three variables.[1] They were population change, assessed valuation of property, and wealth.[2] Using factor analysis, Wood isolated ten factors that accounted for most of the expenditure variation in the New York Urbanized Area.[3] Williams and his colleagues used several techniques in comparing suburbs of the Philadelphia region.[4] The St. Louis metropolitan area was intensively studied by Werner Hirsch with similar findings.[5]

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[1] Seymour Sacks and William F. Hellmuth, Jr., Financing Government in a Metropolitan Area (New York: The Free Press of Glencoe, Inc., 1961).

[2] Ibid., p. 91

Other major undertakings have been designed to explain policy variation, as measured by municipal expenditure in single states. Fisher and Fairbanks analyzed municipal data for communities in the Chicago area, and contrasted their findings with data for 19 downstate Illinois communities.[6] First and second class cities and boroughs in Pennsylvania were analyzed by Davis and Haines with similar results.[7]

Studies using a national sample of municipalities seem to have generally similar findings. Using 1942 data, Fabricant found that current expenditures of municipalities were related to population density, urbanization, and income.[8] Fisher repeated the above study with 1957 data, but found that these three variables, although still important, accounted for less of the intercity variation than they did 15 years before.[9] Sacks and Harris found these variables to be of some importance with 1957 data, but when controls were used for income and direct aid payments to individuals the explanatory value of density and urbanization declined further.[10] Fisher found that intergovernmental revenue was important for expenditure policy.[11] Brazer, in the most exhaustive study encountered, found that population density, median income, and intergovernmental revenue level were able to account for a large part of the variation in municipal expenditures in 1951.[12] Oliver and Stanyer, in research on County Boroughs in Great Britain, were also able to predict a substantial amount of the variation in functional finance areas by taking into account socio-economic variables.[13]

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[3] Robert C. Wood, *1400 Governments* (Cambridge, Massachusetts: Harvard University Press, 1961).

[4] Oliver P. Williams, Harold Herman, Charles S. Liebman, and Thomas R. Dye, *Suburban Differences and Metropolitan Policies: A Philadelphia Story* (Philadelphia: University of Pennsylvania Press, 1965).

[5] Werner Hirsch, "Expenditure Implications of Metropolitan Growth and Consolidation," *Review of Economics and Statistics*, XLI (1959), 232-241.

[6] Glenn W. Fisher and Robert P. Fairbanks, *Illinois Municipal Finance: A Political and Economic Analysis* (Urbana: University of Illinois Press, 1968).

[7] Otto A. Davis and George H. Haines, Jr., "A Political Approach to a Theory of Public Expenditure: The Case of Municipalities," *National Tax Journal*, XIX (1966), 259-275.

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[8] Solomon Fabricant, The Trend of Government Activity in the United States Since 1900 (New York: National Bureau of Economic Research, 1952).

[9] Glenn W. Fisher, "Determinants of State and Local Government Expenditures: A Preliminary Analysis," National Tax Journal, XIV (1961), 349-355.

[10] Seymour Sacks and Robert Harris, "Determinants of State-Local Government Expenditures and Intergovernmental Flows of Funds," National Tax Journal, XVII (1964), 75-85.

[11] Glenn W. Fisher, "Interstate Variation in State and Local Government Finance," National Tax Journal, XVII (1964), 57-74.

[12] Harvey E. Brazer, City Expenditures in the United States (New York: National Bureau of Economic Research, Inc., 1958).

Numerous sociologists and political scientists have noted that certain socio-economic and political variables are associated with various types of municipal policy. The association may be direct or associated with certain types of governmental structure. It was noted that structure also may be related to policy on the municipal level. Sherbenon found that social class and the council-manager plan were highly related in the Chicago area.[14] Schnore and Alford found that the form of government and socio-economic characteristics in 300 suburban communities were related.[15] City size, growth rate, percentage of foreign born residents, and the composition of the work force were found to be related to governmental structure by Kessel.[16] Much of the existing data has been summarized by Froman[17] and by Jacob and Lipsky[18] in recent Journal of Politics articles. Froman also noted, with new data, the high simple correlations of socio-economic and political data with several types of municipal policy.[19] Support of this association also is seen in Banfield and Wilson's excellent text, City Politics.[20]

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[13] F. R. Oliver and J. Stanyer, "Some Aspects of the Financial Behavior of County Boroughs," Public Administration, Journal of the Royal Institute of Public Administration, XLVII (1969), 169-184. See also Alan K. Campbell and Seymour Sacks, Metropolitan America: Fiscal Patterns and Governmental Systems (New York: The Free Press of Glencoe, 1967).

[14] Edgar L. Sherbenon, "Class, Participation, and the Council Manager Plan," Public Administration Review, XXI (1961), 131-135.

[15] Leo F. Schnore and Robert R. Alford, "Forms of Government and Socioeconomic Characteristics of Suburbs," Administrative Science Quarterly, VIII (1963), 1-17.

[16] John H. Kessel, "Government Structures and Political Environment: A Statistical Note About American Cities," American Political Science Review, LVI (1962), 615-620.

Somewhat closely related to these studies cited above are several interesting studies focusing on state policy outputs. Dye's previously discussed research monograph is an outstanding example of these studies.[21] A much more complete study was published by Sharkansky.[22] He found that past budgetary policy decisions on the state level were much more important than the ecological variables that could be measured. This work, which ties budgetary theory and policy output analysis together for the first time, may yet be the most important study in the field.

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[17] Lewis A. Froman, Jr., "An Analysis of Public Policies in Cities," Journal of Politics, XXIX (1967), 94-108.

[18] Herbert Jacob and Michael Lipsky, "Outputs, Structure, and Power: An Assessment of Changes in the Study of State and Local Politics," Journal of Politics, XXX (1968), 510-538.

[19] Froman, pp. 105-106.

[20] Edward C. Banfield and James Q. Wilson, City Politics (Cambridge, Massachusetts: Harvard University Press and the MIT Press, 1963). Also see: Phillips Cutright, "Nonpartisan Electoral Systems in American Cities," Comparative Studies in Society and History, V (1963), 212-226; Thomas R. Dye, "Urban Political Integration: Conditions Associated with Annexations in American Cities," Midwest Journal of Political Science, IX (1964), 230-246; Thomas R. Dye, Charles S. Liebman, Oliver P. Williams, and Harold Herman, "Differentiation and Cooperation in a Metropolitan Area," Midwest Journal of Political Science, VII (1962), 145-155; Characteristics of Cities," Municipal Yearbook: 1965 (Chicago: International City Manager's Association, 1965), 82-97; and Raymond E. Wolfinger and John Osgood Field, "Political Ethos and the Structure of City Government," American Political Science Review, LX (1966), 306-326; Brett Hawkins, "Life Style, Demographic Distance and Voter Support of City-County Consolidation," Southwest Social Science Quarterly, XLVIII (1967), 325-337; Richard A. Watson and John H. Romani, "Metropolitan Government for Metropolitan Cleveland: An Analysis of the Voting Record," Midwest Journal of Political Science, V (1961), 365-390; James A. Norton, "Referenda Voting in a Metropolitan Area," Western Political Quarterly, XVI (1963), 195-212; Robert L. Lineberry and Edmund P. Fowler, "Reformism and Public Policies in American Cities," American Political Science Review, LI (1967), 701-716.

Since the publication of Hunter's Community Power Structure, local power elites have generally been considered to be important in the formulation of major municipal policy decisions.[23] Hunter hypothesized that monolithic power structures prevailed in American cities, but that has been disputed by many. Dahl, among others, contended that noncompetitive groups specialized in policy-making subject matter in local communities thereby making for a pluralistic power structure.[24] Dahl and the pluralists, as well as Hunter and the elitists, seemed willing to generalize to the universe of American communities on the basis of the few early studies that were made. More recent theorists have suggested that not all communities had to be pluralist or monolithic in nature, and that a single type of power structure was not the absolute rule in the United States.[25] The power structure approach has been a promising method for analyzing municipal policy, but it does have some operational drawbacks. Large amounts of money and time must be expended by a research team in order to sample enough cities of sufficient size. This method seems to be better adapted for research teams looking at several cities in order for generalizations to be made.[26]

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[21] Thomas R. Dye, Politics, Economics, and the Public Policy Outcomes in the American States (Chicago: Rand McNally, Inc., 1966). See also: Herbert Jacob, "The Consequences of Malapportionment: A Note of Caution," Social Forces, XLIII (1964-65), 256-261, and Richard E. Dawson and James A. Robinson, "Inter-party Competition, Economic Variables, and Welfare Policies in the American States," Journal of Politics, XXV (1963), 265-289.

[22] Ira Sharkansky, Spending in the American States, (Chicago: Rand McNally and Co., Inc., 1968).

[23] Floyd Hunter, Community Power Structure (Chapel Hill: University of North Carolina Press, 1953).

[24] Robert A. Dahl, Who Governs? (New Haven, Conn.: Yale University Press, 1961).

A third major category of recent work related to municipal policy is represented by studies that seek to describe the municipal policy process. These studies seek to describe details of the usually overlooked background and interpersonal relations that bring major policy change. An example of this type of study is *Decisions in Syracuse* which describes the policy process in certain functional areas of decision-making in Syracuse, New York.[27] A more comparative approach is used in the study of certain Florida cities directed by Kammerer, City Managers in Politics.[28] This study analyzes in detail the reasons for city manager turnover in a 15 year period. Governing New York City by Sayre and Kaufman also may be in the tradition of describing the groupings of participants in policy decisions.[29] In this later case, the city of New York is used as the focus of research.

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[25] See Gladys M. Kammerer, Charles D. Farris, John M. DeGrove, and Alfred B. Clubok, *The Urban Political Community* (Boston: Houghton Mifflin Co., 1963), Robert Presthus, *Men at the Top* (New York: Oxford University Press, 1964); and Robert Agger, Daniel Goldrich, and Bert E. Swanson, *The Rulers and the Ruled* (New York: John Wiley and Sons, Inc., 1964). For a useful bibliography on the subject see Roland J. Pellegrin, "Selected Bibliography on Community Power Structure," *Southwestern Social Science Quarterly*, XLVIII (1967), 451-465.

[26] Kammerer, *et al.* were able to use the same method for power structure studies in eight medium sized cities in Florida. This proved to be an adequate base for comparison. Presthus used a two city sample and Agger *et al.* used a four sample study. In contrast Dahl and Hunter used one city studies.

The hypotheses that are to be tested in the present study rely heavily on the general findings of all three policy study approaches. The data and methods used, however, are more akin to the first group than the power structure or policy description approaches that are outlined above.

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[27] Roscoe Martin, Frank Munger, et al., Decisions in Syracuse (Bloomington: Indiana University Press, 1961).

[28] Gladys M. Kammerer, Charles D. Farris, John M. Degrove, and Alfred B. Clubok, City Managers in Politics: An Analysis of Manager Tenure and Termination (Gainesville: University of Florida Press, 1962).

[29] Wallace S. Sayre and Herbert Kaufman, Governing New York City (New York: Russell Sage Foundation, 1960).

Basic Assumptions

The manifestation of municipal policy may be seen in many forms. Ordinances and resolutions are passed by city councils, executive orders are given by mayors and city managers, and countless other members of the municipal bureaucracies make decisions daily that become policy. Most would agree that municipal policy exists in every community, even though the policy might be that of not doing anything. The problem is that policy is extremely difficult to measure. Because the problem is difficult to solve, it has been convenient for many researchers to use municipal financial measures as indicators of policy. One group of researchers said of this:

> eventually, the attainment of most objectives necessitates decisions regarding tax rates and disbursements. Indeed, the municipal budget is tantamount to a political constitution, amended occasionally as new functions are added, and constantly reinterpreted through annual allocations of resources among alternative programs. This feature common to all municipalities, their tax and expenditure activities, is our major measure of their operative commitment to specific goals and objectives--short their policy choices.[30]

The present study assumes that the community's commitment to a larger expenditure of funds in any one functional area is a commitment to a higher service level. This author believes that high per capita police expenditures and low per capita parks and recreation expenditures in one community and the reverse in another community is not an insignificant indicator of governmental policy. This first situation does not necessarily indicate that a low utility is placed on recreational activities. Indeed, it may only indicate that some other institution in the economy provides these services. Government is used to accomplish some goals while other institutions are used to pursue other goals. This is an important fact to consider in any community.

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[30] Williams, et al., Suburban Differences and Metropolitan Policies, p. 75.

This study assumes that expenditure levels of governments are conscious policy choices by the elected leaders of any unit, and that the continuation of these policies over time represents a commitment by at least a majority of the citizens to these policies. Further, it is assumed that there are no insurmountable legal or institutional barriers to participation for any adult citizen in the decision-making process. On the contrary, these policy choices, it is believed, may well be structured by measurable social, economic, demographic, and political attributes of the community.[31] The author believes that the system used in this comparative analysis of Florida municipalities fulfills the requirements of these assumptions quite well.

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[31] See Ibid., pp. 75-79, for a similar discussion of assumptions.

Variables and Hypotheses

After a survey of past research results in the area, and a tentative attempt at analyzing available data on the 21 larger Florida communities, the variables outlined in the following pages were chosen for further analysis. These were divided into two main sets of variables: independent or causal variables and dependent or caused variables. The dependent variables in this study are all some measure of municipal policy. For most cases these variables represent simple per capita figures, when other measures of output were used, the results were quite unsatisfactory. Whenever possible data were used for years both of 1960 and 1965 as a measure of each variable.

Dependent Variables

The first set of dependent variables is a measure of governmental revenues. These variables can be used to indicate the type of revenue mix that is relied upon in each community. In order to make cross municipal comparisons, revenue data for city-owned utilities are excluded except for that part of the revenue that is placed in the general fund of the city.

Per Capita Total General Revenue, 1960 and 1965.[32] These variables represent all revenue that is included in the general operating budget of each city.

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[32] Data on all dependent variables were found in U. S. Bureau of the Census, County and City Data Book, 1967: A Statistical Abstract Supplement (Washington, D. C.: U. S. Government Printing Office, 1967), pp. 492-493 and U. S. Bureau of the Census, County and City Data Book, 1962: A Statistical Abstract Supplement (Washington, D. C.: U. S. Government Printing Office, 1962), pp. 504-505.

Per Capita Intergovernmental Revenue, 1960 and 1965. These two variables include all revenue from all other levels of government (state, national, county, other city, and special district) paid to the municipality.

Per Capita Total Tax Revenue, 1960 and 1965. Variables named here include all tax revenue from any source that is collected for the general operating budget as well as debt retirement of general obligation bonds.

Per Capita Property Tax Revenue, 1960 and 1965. These variables represent the taxes levied on real property only.

Per Capita Charges and Miscellaneous Revenue, 1960 and 1965.

Per Capita Sales and Gross Receipts Tax, 1960 and 1965. These four variables differ greatly from city to city, and whether or not the revenues are high or low for any individual city depends in large part on whether or not the city owns income-producing utilities.

Dependent variables measuring per capita expenditure totals can be grouped into two sets: those variables measuring total per capita expenditures and those variables measuring per capita expenditures for any of several functional areas. Some of the functional categories given by the Census Bureau have been combined to better fit the Florida situation.

Per Capita Total Expenditures for General Operations, 1960 and 1965. These variables are measures of all expenditures in each city for all purposes that are funded out of the current operating budget.

Per Capita Total Expenditures Excluding Capital Outlay, 1960 and 1965. These variables are similar to the preceding two except that capital outlay is excluded from the figures. It was assumed that the capital outlay expenditures may tend to lump into years at uneven frequencies because many capital outlay projects are funded with general obligation bonds and not current tax receipts.

Per Capita Highway Expenditures, 1960 and 1965;

Per Capita Health, Welfare, and Hospitals Expenditures, 1960 and 1965,

Per Capita Police Expenditures, 1960 and 1965,

Per Capita Fire Expenditures, 1960 and 1965,

Per Capita Sewerage and Other Sanitation Expenditures, 1960,

Per Capita Other Sanitation Expenditures, 1965,

Per Capita Parks and Recreation Expenditures, 1960 and 1965, and

Per Capita Debt, 1960 and 1965. Except for the last two variables listed, these variables are measures of expenditure in the several functional areas of municipal concern that are most common to all municipalities. In addition, total debt is listed because it is a measure of past expenditures.

Independent Demographic Variables

After the choice of dependent variables was made and prior to setting up hypotheses for testing, the independent variables were divided into three sets of variables. These were demographic variables, socio-economic variables, and political variables. Six indicators that describe the demographic attributes of the communities were chosen and are outlined below.

Population. – The population figures for 1960 were taken from reported census material.[33] The estimates used for 1965 population data were found in the most recent Rand McNally Commercial Atlas.[34] These estimates are based on municipal utility billings, new housing starts, and other data available to municipalities. It was expected that these two figures for population would be the most reliable single predictors of aggregate expenditure and revenue totals. This is simply to say that larger cities have more revenue and expenditure than do smaller cities.[35] In addition the patterns of expenditure and revenue sources were expected to be different in cities of differing size. This was expected even when per capita figures for each functional area were used.

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[33] County and City Data Book 1967, p. 484

[34] Rand McNally Commercial Atlas and Marketing Guide, 99th Edition, (Chicago Rand McNally and Co., 1967), p. 43

[35] See Sacks and Hellmuth, p. 118-121

Population change, 1950-1960 - This factor was calculated by the Bureau of the Census, and it was assumed by the writer to be a measure of interstate and intercity mobility.[36] It was expected that more rapidly growing cities would have finance patterns different from cities with more stable populations.[37] Specifically, rapidly growing cities may need to spend greater portions of their incomes in areas that require large capital expenditures in order to service the expanding population.

City area in 1965 - The city area in 1960 was noted in the census publications, and in those cities that reported annexations between 1960 and 1966, the appropriate area was added.[38] The actual land area of a city was expected to be a very important predictor of certain types of municipal policy.[39] Larger land areas mean that more miles of streets, sewer and water mains, longer police patrols, etc., should lead to higher expenditures.

Density - This variable was calculated by dividing the 1965 population estimates into the 1965 area. Considerable economies of scale should come about because of compact population densities, but at the same time some types of social problems are intensified by (or at least associated with) human crowding.[40] It was expected that both high and low population densities would be associated with high expenditure for most functional areas of concern.

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[36] County and City Data Book, 1967, p. 484.

[37] See Fisher and Fairbanks, pp. 212-218.

[38] County and City Data Book, 1967, p. 484 and Municipal Yearbook, 1967 (Chicago: International City Manager's Association, 1967), pp. 74-78.

[39] See Dye, "Urban Political Integration."

Age. - Median age of the population is available by governmental jurisdiction in published data for 1960.[41] The percent of residents over age 65 is found in the same source.[42] These two indicators, it was felt, would be excellent predictors of certain types of public policy. Expenditure for parks and recreation, health, and, perhaps, police should, to a great degree, be controlled by the age of the population.[43]

Demographic Hypotheses

Hypotheses concerning the importance of demographic data may be offered as one major hypothesis and five supporting hypotheses. The model for policy analysis that was previously discussed indicates the likelihood of certain linkages in the case of Florida. These hypotheses are listed below.

D-i. The demographic environment of the community accounts for a significant amount of variation in per capita expenditure and revenue in

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[40] See Fisher and Fairbanks, pp. 212-225.

[41] *County and City Data Book, 1967*, p. 484.

[42] *Ibid.*

[43] See Fisher and Fairbanks, pp. 212-225 and Wood, pp. 65-67.

Florida municipalities.

a. The larger the population, the higher a city's per capita expenditure and revenue is expected to be.

b. The more rapid the growth of a city, the higher the per capita expenditure and revenue is expected to be.

c. The larger a city's land area, the higher that city's per capita expenditure and revenue is expected to be.

d. The more densely populated a city, the higher the per capita expenditure and revenue is expected to be.

e. The higher the age of a city's inhabitants, the higher the per capita expenditure and revenue is expected to be.

Independent Socio-economic Variables

Several measures of socio-economic status of city residents are readily available. Many are indicators of more basic variables, and several of these were deleted by the step-wise regression analysis that is explained later. The seventeen variables that were initially chosen to measure the socio-economic system are given below.

Percent Negro. - These data were taken from reported census material by city in 1960.[44] Percentage Negro may well be only an indicator of general socio-economic status of the community at this point in history. Several scholars have pointed out that to be Negro in the United States is to be a member of the lower socio-economic class structure.[45] If this is true nation-wide, then it is even more true in a southern state such as Florida. It was expected that high numbers of Negroes in the community would be a predictor of higher expenditures for health, welfare, and police-related services, and lower expenditures for amenities-related functions such as parks and recreation. In addition, a high proportion of Negroes in a community (lower socio-economic class) should be related to lower per capita revenue levels.

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[44] County and City Data Book, 1967, p. 484.

Percent foreign born. - As was the case with the previous indicator, this variable may be merely an indicator of socio-economic class. Fisher and Fairbanks found percentage of foreign born to be one of the better predictors of expenditure policy in their Illinois study.[46] It was expected that this variable, very easily obtainable from census data,[47] would be associated with lower levels of expenditure for parks, recreation, and refuse collection, but with higher levels of expenditure for all other functional areas. In addition, as was the case with high numbers of Negroes in the community, revenue levels should be lowest in those cities with the highest percentage of foreign born residents.

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[45] See Edward C. Banfield, The Unheavenly City (Boston: Little, Brown and Co., 1970).

[46] Fisher and Fairbanks, pp. 212-225. Also see John C. Bollens and Henry J. Schmandt, The Metropolis (New York: Harper and Row, 1965), pp. 93-99.

[47] County and City Data Book, 1967, p. 484.

Intracity mobility. - The percentage of persons residing in the same house in 1960 and 1955 is available in published form and it was thought that this variable, combined with the percentage of population change from 1950 to 1960, would give some indication of intracity mobility.[48] The growth rate of almost all Florida cities was very high in the ten-year period prior to the 1960 census. In addition to this, considerable moving was done by older residents. The process of residential change is well documented, but it may be quickly summarized here. When lower socio-economic families move into a community, they temporarily move into the more substandard housing in the area. As they perceive their economic situation improving, they move into the fringe areas of the city into the "newer" housing developments.[49] These new developments require expanded services that need, at least initially, large expenditures per capita for municipal services. High intracity mobility therefore should be a predictor of increased expenditures and higher revenues in order to support these expenditures

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[48] Ibid.

[49] See Bollens and Schmandt, pp. 252-261 and W. Lloyd Warner, (Editor), Yankee City (Abridged edition, New Haven: Yale University Press, 1963), pp. 1-35.

Education - Median education figures are available by city in 1960.[50] This variable highly intercorrelated with other measures of socio-economic status has been found to be highly associated with governmental policy. It was expected that high education would be a predictor of high revenue and expenditure totals because of the demands for increased services that these residents make on their governmental decision-makers.

Income - This variable was operationalized in two ways, median family income and the percentage of families with incomes under $3,000.[51] Higher income residents should demand more services and be willing, or at least able, to pay for them. A higher percentage of lower income families, on the other hand, should predict low service levels and low revenue totals.

Housing - Several indicators may be used to describe the housing situation in American cities. Three indicators were investigated at some length in this study and it was found that they were related to socio-economic status of the municipal residents. Median value of owner-occupied housing units is a measure of relative wealth in the community. The percentage of building units that are one-unit structures (related to density) points out the character of the housing situation; e. g., whether or not the city is suburban or urban in character. The percentage of dwellings that are owner-occupied is an additional measure of the housing characteristics.[52] It was expected that high concentrations of high-value, one-unit, owner-occupied housing would predict high service demands with high expenditure levels and willingness and ableness to pay for these services through increased taxes.

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[50] *County and City Data Book, 1967*, p. 484.

[51] *Ibid.*

Employment patterns. - Two indicators were used to probe this variable.[53] The percentage of employed persons in white collar occupations may be another measurement, at least partially, of middle classness in Florida cities. The second variable, the manufacturing ratio, is simply the percentage of the work force engaged in manufacturing employment in the city. High white-collar concentrations and low manufacturing employment should predict high service demands and high expenditures, while low numbers of white-collar employees and high numbers of workers engaged in manufacturing should be associated with low expenditures and low revenue collections.

Urbanization. - This variable was measured in two ways: the fertility ratio and an urbanization score. The fertility ratio, calculated from census data, represents the number of children under five years old per 1,000 women between ages 15 and 46. The calculations were based on 1960 data.[54] The urbanization score was adapted from a scale devised by Shevky and Bell.[55] This score takes into account fertility, women in the labor force, and the numbers of single-family detached dwelling units. It was expected that higher levels of urbanization (indicated by a high urbanization score and a low fertility ratio) would predict higher income and expenditure totals in all areas.

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[52] Ibid. For a discussion of housing see Bollens and Schmandt, pp. 252-261.

[53] County and City Data Book, 1967, p. 484.

Social class. - Although several indicators, already discussed, are measures of social class, the social class score used by Shevky and Bell is used as an additional variable.[56] This score is based on two measures of social class: occupational status and education.[57] It should be noted that the Shevky-Bell analysis used census tract data as the basic measurement units, while this study uses aggregate city data. As is the expected case for other variables associated with social class, the social class score should predict spending and income levels.[58] High social class should indicate high revenue and spending, while low social class should be associated with lower per capita figures.

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[54] *Ibid.*

[55] Esref Shevky and Wendell Bell, *Social Area Analysis* (Stanford: Stanford University Press, 1955), pp. 17-58.

[56] *Ibid.*

[57] *City and County Data Book, 1967*, p. 484.

Socio-economic Hypotheses

One major hypothesis and twelve supporting hypotheses are concerned with socio-economic variables. These are listed below S-1. The socio-economic environment of the community accounts for a significant amount of variation in per capita expenditure and revenue in Florida municipalities.

a. The higher the proportion of Negroes in a community, the lower the per capita expenditure and revenue of that community is expected to be.

b. The higher the proportion of foreign born in a city, the lower the per capita expenditure and revenue is expected to be.

c. The more mobile the population of a city, the higher the per capita expenditure and revenue is expected to be.

d. The higher the educational level of a city's inhabitants, the higher the per capita expenditure and revenue is expected to be.

e. The higher the income level of a city's inhabitants, the higher the per capita expenditure and revenue is expected to be f The higher the value of the housing in a city, the higher the per capita expenditure and revenue is expected to be.

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[58] An excellent discussion of social class is found in Warner, Yankee City, passim.

g. The higher the percentage of one-unit structures and owner-occupied housing in a city, the higher the per capita expenditure and revenue is expected to be.

h The higher the percentage of white collar workers in a city, the higher the per capita expenditure and revenue is expected to be.

i The higher the manufacturing ratio in a city, the lower the per capita expenditure and revenue is expected to be

j The higher the fertility ratio in a city, the lower the per capita expenditure and revenue is expected to be

k. The higher the urbanization score in a city, the higher the per capita expenditure and revenue is expected to be.

l The higher the social class score in a city, the higher the per capita expenditure and revenue is expected to be

Independent Political Variables

The third subset of independent variables was devised in an effort to gain some measure of the political system as it is currently operating. The data were collected by the author in the summer of 1967 In each city the author personally interviewed the city clerk, finance director, and in most cases the city manager and/or assistant city manager.

In addition, the municipal records were scrutinized to obtain voting data for all elections since 1958. The political variables that were used in this study are given below.

Index of openness. - This index attempts to measure the political type continuum described by Kammerer et al. in their study of Florida city manager politics.[59] They found that in ten case-study cities political style varied from dominance by one leadership clique to competition among two or more organized interests, as well as by entry into the political arena by non-clique-backed candidates (independents).[60] This index was calculated with the assumption that few candidates would wish to face almost certain defeat in the guided politics of the monopolistic, clique-dominated cities, while in the competitive situations several candidates may wish to file for election in the first primary. The number of candidates per position on the ballot in the last four primary elections is used as a measure for this continuum. A high number indicates an open (competitive) system, while a low number indicates a closed (monopolistic) system. This index is shown in Table 2.1.

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[59] Kammerer, et al., City Managers in Politics.

[60] Ibid., pp. 22-25.

TABLE 2.1

MUNICIPAL COMPETITION IN FLORIDA CITIES: 1958-1967

City	Index of[a] Openness	Voting[a] Participation Index
Clearwater	2.56	30.26
Coral Gables	2.19	40.05
Daytona Beach	3.24	55.09
Ft. Lauderdale	4.00	30.31
Ft. Pierce	3.12	40.96
Gainesville	2.82	35.91
Hialeah	3.95	40.75
Hollywood	3.17	48.79
Jacksonville	3.19	57.60
Lakeland	2.56	45.75
Miami	4.92	27.96
Miami Beach	3.56	60.87
North Miami	2.75	51.57
Orlando	2.80	41.88
Panama City	2.62	55.24
Pensacola	3.67	52.75
St. Petersburg	5.94	43.00
Sarasota	3.17	25.13
Tallahassee	2.69	52.99
Tampa	4.28	64.32
West Palm Beach	3.18	37.53

[a] Data were made available to the author by the cooperation of city clerks in the 21 cities.

Voting participation index. - The present study found that the average voting turnout in the elections studied in the 21 largest Florida cities was only 44.7 percent of the registered electorate. The index itself for each city is the average percentage voter turnout for the last four municipal elections. It is assumed that competition has something to do with voter participation, and that this index may be a further indicator of competition in the system. The index for each city is listed in Table 2.1.

Both of the above variables are indicators of the intensity of competition to some degree. Competition, in the long run, may well lead to increased service levels as additional interest groups enter the political battle to request their "fair share" of city services. A few groups, to be sure, lobby for lower taxes from time to time, but almost daily demands are made on the municipal departments to give more service. Competition, then, should be associated with higher expenditures in almost all functional areas with relatively higher per capita revenues to pay for the demanded services.

Index of mayor's power. - The power of the mayor is a potentially important indicator of several types of municipal policy. In this study it was assumed that the mayor's power would be in direct relation to the base of his elective constituency. In other words, a mayor elected by the council is less powerful than a mayor elected by the voters. This should hold regardless of whether a strong or weak mayor form of government is used. The important consideration is whether or not the mayor is popularly elected. It was also assumed that, other things being equal, a city with the council-manager system would have a less powerful mayor than a city under a mayor-council government. Numerical values were given to the potential situations as shown in Table 2.2. This index forms a nominal scale. Other things being equal, a municipality with index number 6 would have a more powerful mayor than a municipality with index number 1. Mayors, because they may have the opportunity to see the overall view of the working municipal departments, may well be disposed to support more and better services for a community. Powerful mayors, as defined here, should be able to "deliver" these better and more expensive services. This is because they must be responsive to more groups because of their city-wide constituencies. The more powerful mayors should then be found in cities with relatively higher per capita expenditures and the higher per capita revenues to pay for the expenditures.

Elected department heads. - When there are large numbers of elected department heads, this is another factor that may lead to the erosion of the mayor's power. In several Florida cities, elected department heads perceive themselves as rivals to the mayor in representing the wishes of the citizens. These departments include such positions as clerk, auditor, treasurer, and in one case (West Palm Beach) the police chief. In most cases, they appeared to be in favor of

TABLE 2.2

THE POWER OF THE MAYOR[a]

Structure	Rank	Cities
Council-Manager system with no mayor	1	None
Council-Manager system where the mayor is appointed automatically because he is the new councilman with the highest number of votes in the last election	2	Ft. Lauderdale
Council-Manager system where the mayor is elected by the council	3	Lakeland, Sarasota, Tallahassee, Miami Beach,[b] North Miami, West Palm Beach, Daytona Beach,[b] Pensacola, Gainesville
Council-Manager system where the mayor is elected at large	4	St. Petersburg, Clearwater, Coral Gables, Miami, Miami Beach,[b] Hollywood, Ft. Pierce, Daytona Beach,[b] Panama City
Mayor-Commission system	5	Jacksonville[c]
Mayor-Council system	6	Tampa, Hialeah, Orlando

[a] Information for this table was made available by city clerks in the 21 cities.

[b] The structure of government changed during the time period of this study.

[c] This structure prevailed in Jacksonville until 1968.

economy and efficiency, lower taxes, and generally lower service levels. Table 2 3 lists the number of department heads elected in each city A high number should indicate that the mayor is relatively weak, at least in the budgetary process, while a low number of elected department heads should indicate a mayor with a potential for more power. A high elected department head score should predict lower per capita expenditures and revenue levels which is just opposite to the relationship expected for powerful mayor cities.

TABLE 2.3

ELECTED DEPARTMENT HEADS IN FLORIDA CITIES[a]

City	Number
Jacksonville	3
North Miami	2
Tampa	1
West Palm Beach	1
All other cities	0

[a] Information for this table was made available by city clerks in the 21 cities.

Council election type index. - Reformers of an earlier era assumed that it was better to elect councilmen at large than in districts.[61] This situation and the deviance from it are given numerical values in Table 2.4 The lower the index score, the more the governmental structure conforms to the reformers' ideal of the "good state." As "good" governments provide high service levels, a low score (council elected at large) should be related to high per capita expenditures and revenues, while a high score (council elected in neighborhoods or constituencies smaller than the intercity) should be related to lower expenditure and revenue levels.

Number of city-owned utilities - A variety of utilities are operated by Florida municipalities, and some appear to be quite lucrative sources of municipal income. This situation was measured by noting the number of city-owned utilities per municipality. This list is shown in Table 2.5 Utility revenues and expenditures are not counted in the general fund expenditure and revenue figures for the cities except as profits or losses are entered into the general fund account. Because ownership and operations of utilities can be very profitable for cities, they frequently become a political football kicked around among competing factions in the community. They are frequently used or seen by some groups as a way of keeping taxes down. The ownership and operation of more utilities

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[61] See Banfield and Wilson, pp. 138-167.

TABLE 2, 4

COUNCIL ELECTION TYPE INDEX

Description	Rank	Cities
All members elected at large	1	Clearwater, Coral Gables, Miami Beach,[a] Hollywood, Ft. Lauderdale
All members elected at large, but by group	2	Sarasota, Miami Beach,[b] Miami, West Palm Beach, Gainesville
Some councilmen elected at large with no district residence requirements and some members of the council elected at large with district residence requirements	3	Lakeland, Jacksonville[c]
All members elected at large with residence requirements	4	Tampa, Ft. Pierce, Orlando, Daytona Beach,[b] Panama City
All members elected at large with district residence requirements and requirements to run by groups	5	Pensacola
All members elected by district	6	St. Petersburg, Daytona Beach[b]
All members elected by district with requirement to run by groups	7	None

[a] Information for this table was made available by city clerks in the 21 cities.

[b] The structure of government changed during the time period that elections were under study.

[c] This is election type for council only, does not include the commission.

TABLE 2. 5

CITY OWNED UTILITIES[a]

City	Number of utilities
Clearwater	2
Coral Gables	2
Daytona Beach	4
Ft Lauderdale	2
Ft Pierce	3
Gainesville	3
Hialeah	2
Hollywood	2
Jacksonville	4
Lakeland	4
Miami	2
Miami Beach	3
North Miami	2
Orlando	3
Panama City	4
Pensacola	4
St. Petersburg	4
Sarasota	2
Tallahassee	5
Tampa	2
West Palm Beach	2

[a] Information for this table was made available by city clerks in the 21 cities.

should then be associated with high general revenue, but low per capita revenue from tax sources. In addition, high numbers of utilities should mean high per capita expenditures.

Political Hypotheses

One major hypothesis and six supporting hypotheses were tested to investigate the importance of the political system on public policy in the case of the Florida municipalities. These are listed below.

P-1. The political environment of the community accounts for a significant amount of variation in per capita expenditure and revenue in Florida municipalities.

a. The more politically competitive a city, the higher the per capita expenditures and revenues are expected to be.

b. The higher the voting turnout in a city, the higher the per capita expenditures and revenues are expected to be.

c. The more powerful the mayor is in a city, the higher the per capita expenditures and revenues are expected to be.

d. The higher the number of elected department heads in a city, the lower the per capita expenditures and revenues are expected to be.

e. The higher the proportion of city councilmen elected at large, the higher the per capita expenditures and revenues are expected to be.

f. The larger the number of city owned utilities, the lower the per capita tax revenues and the higher the total per capita revenues and expenditures are expected to be.

Method of Analysis

In order to test the above hypotheses, a variety of techniques are used[62] The techniques are standard procedure and the more statistically oriented of them may be found described in any standard statistics textbook A simple explanation is offered here.

The matrix of simple correlations. - After collecting all of the data, simple correlations were run for each variable against all other variables The resulting correlation matrix consisted of 64 variables. The simple correlations obtained were examined to identify relationships that were related significantly enough to warrant further analysis

The simple correlation coefficient measures the degree to which one variable is associated with another The coefficient ranges from +1 to -1; this would indicate a continuum ranging from a relationship that is perfect to a perfectly negative relationship. A correlation of +1 between A and B would indicate that when A occurs B also always occurs. Conversely, a correlation of -1 would indicate that these two variables would never occur together. A correlation coefficient of 0 indicates that there is no correlation or association between the variables. It is not necessary to specify which is the independent and which is the dependent variable in simple correlation analysis because the coefficient measures only the degree of association and does not specify that one causes the other.

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[62] For example see Hubert M. Blalock, Jr , Social Statistics (New York: McGraw-Hill, Inc., 1960).

The following will illustrate the use of such correlations. The correlations among the supposed independent variables indicated that a high degree of autocorrelation existed among the original variables. For example, it was found that the 1960 population figures correlated with the 1965 population estimates at .993. This suggests that, overall, the populations of the 21 larger Florida communities grew quite evenly. These two variables simply measured the same thing, and so the 1965 estimates were dropped from some of the further analysis.

Multiple Regression and Correlation. - Multiple regression and correlation analysis make it possible to approximate the degree of association between two variables while controlling for the effect of several intervening variables. By the use of regression analysis one can find the combined influence of several independent variables upon a dependent variable, and at the same time it is possible to indicate the relative importance of each independent variable in this association. The association between several independent variables as a group and the dependent variable is called the coefficient of multiple regression(R). The square of this coefficient is a valuable concept, and it is called the coefficient of multiple determination (R^2). This approximates the percentage of the variation in the dependent variable that is accounted for by the combined independent variable.

The multiple regression analysis assumes that the data will fit the following linear equation:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + + + b_nx_n$$

The regression coefficient (b) in the above equation indicates the relative importance of each independent variable in the equation, and even more valuable, the b^2 (beta weight squared) approximates the percentage variation in the dependent variable that is accounted for by that one particular independent variable.

Relationships between the dependent and independent variables in this study were analyzed with the aid of a stepwise multiple regression program developed for the IBM 360 computer at Utah State University.[63] This stepwise made includes all of the independent variables in the model initially, then deletes them one at a time. Each variable is deleted as it becomes the variable contributing the least amount to the model sum-of-squares of the regression equation.

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[63] This program was written by Dr. Rex Hurst of the Department of Applied Statistics at Utah State University, Logan, Utah. The program is known as SMRR. This method differs radically from the method of stepwise regression explained in Fisher and Fairbanks, p. 212, which uses the process of addition of variables instead of deletion as explained above.

Once a variable is deleted, a new model is formed and a second variable is deleted by considering its contribution to the model sum-of-squares. Once a variable has been deleted from a model by this program it is not reconsidered. The stepwise analysis continues to delete variables until there is only one left.

The Level of Significance. - As Thomas Dye has pointed out, "what is or is not a significant correlation in the social sciences does not lend itself to generalizations."[64] Most researchers agree that high correlation coefficients are more welcome than constant low correlations, but any correlation is sometimes quite welcome. A correlation coefficient of .99 indicates that 98 percent of the variation between the variables is accounted for while a correlation of .500 indicates that 25 percent of the variation is known. Obviously one is less worried about the missing 1 percent of variation than the missing 75 percent, but knowing something is better than knowing nothing (a correlation of .0001, for example).

This study assumes that correlations (simple and multiple) are significant if they correlate more closely than a chance selection of random numbers. The usual significance levels of .05 and .01 are used. This is to say that relationships are significant if one can be 95 percent sure that the relationships could not have occurred by chance.

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[64] Dye, Politics, Economics, and the Public, p. 38.

CHAPTER III

EXPENDITURE PATTERNS IN FLORIDA CITIES: AN OVERVIEW

Prior to testing the actual hypotheses set forth in the previous chapter, it is interesting to look at the general description of the expenditure patterns of the study cities. This chapter will focus on presenting a general map of the terrain of Florida municipal expenditures.

Expenditures

Per capita general operating expenditure in the Florida cities under study here is presented in Table 3.1 for the year 1960 and 1965. There was considerable variation in the level of expenditure for some cities during this time period. North Miami, which had a very low level of expenditure in 1960, i. e., $80.91, had become one of the cities with the highest level in 1965, $154.36 (an increase of 90.77 percent). This increase was accounted for by an increased level of expenditures for sewerage and fire control. Other cities were marked by a decline in the expenditure level during this period. Hollywood's per capita

TABLE 3.1

TOTAL PER CAPITA GENERAL OPERATING EXPENDITURE FOR THE YEARS 1960 AND 1965 IN FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

City	1960	1965	Change 1960-65	Change 1960-65
Clearwater	$134.44	$131.48	$ 2.96	-2.2%
Coral Gables	116.43	140.94	24.51	21.05
Daytona Beach	86.21	124.45	38.24	44.35
Ft. Lauderdale	114.81	115.71	0.90	0.78
Ft. Pierce	57.29	63.06	5.77	10.07
Gainesville	70.50	90.23	19.73	27.98
Hialeah	55.15	57.50	2.35	4.26
Hollywood	137.78	102.64	-35.14	-25.50
Jacksonville	164.26	144.76	-19.50	-11.87
Lakeland	103.07	94.48	-8.59	-8.33
Miami	108.23	102.58	-5.65	-5.22
Miami Beach	174.62	167.20	-7.42	-4.24
North Miami	80.91	154.36	73.45	90.77
Orlando	121.51	104.12	-17.39	-14.31
Panama City	87.63	78.14	-9.49	-10.82
Pensacola	114.23	113.81	-0.42	-0.36
St. Petersburg	120.83	161.69	40.86	33.81
Sarasota	121.61	115.02	-6.59	-5.41
Tallahassee	97.50	142.67	45.17	46.32
Tampa	98.38	122.64	24.26	24.65
West Palm Beach	74.79	109.88	35.09	46.91
Mean of Cities	106.67	116.09	9.42	8.83
Standard Deviation	31.18	29.99	--	--
Coefficient of Var.	29.23	25.83	--	--

expenditure level fell from $137.78 in 1960 to $103.64 in 1965 (a decline of 25.50 percent). Much of this was due to the lower level of expenditures for sewerage and other sanitation functions. In spite of variations, which will be noted, the overall pattern of the study cities remained quite constant throughout the period with only slight upward rises in 1965.

The data show that ten cities actually had per capita expenditure decreases in the five-year period, with eleven cities showing increases. The average per capita expenditure for the 21 cities increased from $106.67 in 1960 to $116.09 in 1965, an increase of 8.83 percent. Also, overall variation among the cities did not change substantially during the period. The coefficient of variation, which indicates the amount of overall variation in the sample, actually decreased in magnitude in the time period. In both years, 15 cities fell within the first standard deviation with two above this level and four below in 1960, and three above the standard deviation and three below in 1965.

A variety of functional areas constitutes the primary range of concern for Florida municipalities. Expenditure levels for those areas that are most pervasive are presented in Table 3.2 for 1960 and in Table 3.3 for 1965. It can be seen that the direction of expenditure is generally upward for most of these functional areas in almost all of the cities. A summary of the 21-city average is shown in Tables 3.4 and 3.5.

TABLE 3.2

1960 PER CAPITA EXPENDITURE IN SELECTED FUNCTIONAL AREAS FOR FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

City	Police	Fire	Highways	All Sanitation	Welfare and Hospitals
Clearwater	$13.07	$ 8.77	$28.82	$26.57	$ 46
Coral Gables	17.61	7.21	16.75	16.44	.0
Daytona Beach	10.99	9.46	7.86	15.21	16
Ft. Lauderdale	13.86	8.46	22.79	18.79	40
Ft. Pierce	8.94	2.96	9.38	11.04	.15
Gainesville	9.79	8.65	9.89	14.98	1.01
Hialeah	7.58	4.77	18.64	6.78	.19
Hollywood	15.86	8.48	30.42	19.69	1.07
Jacksonville	18.06	11.46	13.43	47.76	5.05
Lakeland	9.14	8.29	11.85	25.82	8.53
Miami	19.68	15.95	8.65	25.00	.44
Miami Beach	27.88	12.71	28.94	25.95	5.97
North Miami	8.39	6.58	17.62	16.23	.0
Orlando	9.80	5.85	5.26	23.41	.66
Panama City	6.04	4.80	7.51	9.94	.21
Pensacola	12.35	14.60	14.09	16.56	1.97
St. Petersburg	7.66	5.94	13.46	25.42	33.22
Sarasota	11.20	9.41	17.83	36.70	0
Tallahassee	8.80	7.59	8.69	15.31	28.54
Tampa	10.08	8.00	22.94	10.81	23.43
West Palm Beach	11.49	7.72	8.98	15.08	96
City Mean	12.33	8.47	15.48	20.19	5.29
Standard Deviation	5.19	3.16	7.63	9.55	10.06
Coefficient of Variation	42.09	37.31	49.29	47.30	190.17

TABLE 3.3

1965 PER CAPITA EXPENDITURE IN SELECTED FUNCTIONAL AREAS FOR FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

City	Police	Fire	Health Welfare and Hospitals	Sewer.	Other Sanitation	Highways	Parks & Rec.
Clearwater	$13.60	$10.60	$ .53	$15.51	$26.30	$17.23	$11.18
Coral Gables	18.41	12.17	.0	8.33	13.28	15.17	19.79
Daytona Beach	20.11	11.84	.0	8.36	9.77	5.90	14.04
Ft. Lauderdale	15.16	10.45	.0	19.45	6.61	17.86	12.85
Ft. Pierce	10.53	.0	.33	4.93	7.40	10.60	3.46
Gainesville	9.72	7.72	.96	20.76	6.67	12.49	6.00
Hialeah	8.86	6.91	.23	1.17	7.48	9.56	8.23
Hollywood	14.10	9.08	.76	19.77	8.41	13.52	14.16
Jacksonville	22.83	16.21	5.48	6.83	13.32	16.07	18.46
Lakeland	14.57	8.28	.46	4.42	6.15	10.51	9.00
Miami	19.98	16.18	.44	5.91	12.00	6.60	13.10
Miami Beach	27.54	13.73	5.57	7.66	19.44	8.35	42.27
North Miami	10.24	15.21	0	23.37	9.06	9.78	7.63
Orlando	13.78	9.62	4.78	7.54	10.20	13.10	8.39
Panama City	8.00	6.11	0	5.22	6.14	9.17	7.63
Pensacola	14.42	10.95	.47	5.32	6.83	17.98	7.83
St. Petersburg	9.78	8.04	34.99	7.64	8.53	32.82	21.95
Sarasota	10.17	9.48	.0	7.89	9.33	15.00	31.07
Tallahassee	12.89	10.94	46.40	6.81	7.38	12.23	10.69
Tampa	12.61	11.51	.03	23.67	6.80	19.72	14.81
West Palm Beach	25.66	10.64	.18	5.06	10.74	13.88	11.30
City Mean	15.00	10.29	4.52	10.33	10.00	13.76	11.30
Standard Dev.	5.59	3.65	12.19	7.08	4.81	5.81	9.05
Coefficient of Variation	37.27	35.47	269.69	68.54	48.10	42.22	65.29

TABLE 3.4

SUMMARY OF AVERAGE PER CAPITA EXPENDITURE IN 1960 AND 1965 FOR 21 FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

Category	1960	1965	Change 1960-65	Percentage Change 1960-65
Total Expenditure	$106.67	$116.09	$9.42	8.83%
Police	12.33	15.00	2.67	21.65
Fire	8.47	10.29	1.82	21.48
Health, Welfare, & Hospitals	5.29	4.52	-.77	-14.55
Sewerage	NA[a]	10.33	NA	NA
Other Sanitation	NA[a]	10.00	NA	NA
Combined Sewerage and Other Sanitation	20.19[b]	20.33	.14	.69
Highways	15.48	13.76	-1.72	-11.11
Parks & Recreation	NA[a]	13.86	NA	NA

[a] Separate expenditure totals were not available for the functional areas of parks and recreation, sewerage, and other sanitation in 1960.

[b] The functional areas of sewerage and other sanitation were combined in order to compare the two years totals

TABLE 3.5

SUMMARY OF AVERAGE PER CAPITA EXPENDITURE FOR SELECTED FUNCTIONAL AREAS AS A PERCENTAGE OF TOTAL EXPENDITURE IN 1960 AND 1965 FOR FLORIDA CITIES WITH 1960 POPULATIONS OVER 25 000

Area	1960	1965	Change 1960-65
Police	11.55%	12.92%	1.37%
Fire	7.94	8.86	.92
Health, Welfare and Hospitals	4.95	3.89	-1.06
Sewerage and Other Sanitation	18.92	17.50	-1.42
Sewerage	NA	8.89	NA
Other Sanitation	NA	8.61	NA
Highways	14.51	11.85	-2.66
Parks and Recreation	NA	11.93	NA

Per capita expenditure for police services is generally upward from 1960 to 1965; the average per capita expenditure increased from $12.33 in 1960 to $15.00 in 1965, an increase of 21.65 percent in the five-year period. Average per capita expenditures for police protection increased from 11.55 percent of total expenditure in 1960 to 12.92 percent of total expenditure in 1965. This represents an increase of 1.37 percent

A similar relationship is seen for expenditure in the functional area of fire protection. The coefficient of variation of 37.31 in 1960 and 35.47 in 1965 shows that there is not a great deal of variation in any of these cities in either time period. There was, however, a substantial and somewhat uniform increase in per capita expenditure for fire protection. The average per capita expenditure increased by 21.48 percent, from $8.47 in 1960 to $10.29 in 1965. This was deceptive, however, as fire program expenditures were 7.94 percent of the total expenditures in 1960 and only 8.86 percent of total expenditure five years later. This was a slightly lower increase than was seen for the functional areas.

Participation by municipal governments of Florida in the functional areas of health, welfare, and hospitals services is varied. The separate categories of health services, welfare services, and hospital services were combined in this study because of the frequently low expenditure in each of these areas. Services in these functional areas are provided primarily by the state and county governments in the state, and except for some intergovernmental transfers from city to county for special programs, most cities do not become involved. A few cities, most of them larger cities, do provide the hospital function, as can be seen in Tables 3.2 and 3.3. Public hospital services in most metropolitan areas are provided by county governments or by one of the large number of hospital districts that have been set up under state auspices.[1]

It can be seen that expenditure for this combined functional area decreased by 14.55 percent in the five-year period. There was also a decrease in the relative importance of the combined functions in the total city budget. Health, welfare, and hospital expenditures accounted for 4.95 percent of the total budget in 1960, but only 3.59 percent in 1965. The coefficients of variation of the data shown for this functional area in Tables 3.2 and 3.3 indicate there is almost no uniformity among expenditure patterns in this category. The coefficient of variation is higher in 1965 (269.69) than in 1960 (190.17), and this appears to indicate that the municipalities are leaving the responsibility ever more to the county and state level.

Somewhat less variation than in the above is seen in the category of highway expenditure. All cities spent a relatively large percentage of their total available resources on this important function. In 1960, average per capita expenditure was $15.45, 14.51 percent of all expenditure. This average per capita level fell to $11.85 in 1965, accounting for 11.85 percent of the expenditure available in the aggregate totals. Per capita expenditure fell by 11.11 percent from the 1960 level.

Because data were not available in the separate categories of sewerage and other sanitation in 1960, for comparison these two categories were combined in both 1960 and 1965. One might question the combining of these categories for each of the two years, because Hialeah had almost non-existent "public" sewerage facilities ($1.17 per capita in 1965). It can be seen, however, that actual expenditures were almost constant, with an increase of only 0.69 percent noted. There was a slight decrease in the percentage of the total expenditure level that was allocated to these combined functions. Both functions accounted for 18.92 percent of the general expenditure budget in 1960 and 17.50 percent of the budget in 1965, a 1.42 percent decrease.

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[1] U. S. Bureau of the Census, Census of Governments, 1967, Vol. 1, Governmental Organization (Washington, D. C.: U. S. Government Printing Office, 1968), p. 325.

Data also were not available for the 1960 expenditure level of another function, that of parks and recreation. In 1965 this category accounted for 11.93 percent of the general operating expenditure level in the 21 cities. It is interesting to note that the resort-oriented community of Miami Beach spent $42.27 per capita on this functional area while every other city spent less than one-half of this amount. This, of course, is not an unexpected finding.

Summary

It can be seen that the level of per capita expenditure in the 21 study cities generally was upward from 1960 to 1965, especially when two functions are not included in the analysis. The divergent pattern of one of these functions, represented in the combined categories of expenditure for health, welfare, and hospitals, can be explained easily because it is not a uniform custom of the municipalities to provide these services. Welfare and health related services are performed by the county and state governments in Florida with only minor contributions to the funding of these services by a few municipalities. The provision for hospital services seems to differ according to the locality. Seven cities actually spent no money on hospital services in 1965 or 1960, while three cities (Jacksonville, St. Petersburg, and Tallahassee) spent significant amounts for this purpose. The other eleven municipalities allotted more modest amounts to non-municipal operated facilities.[2] The provision of hospital services tends to be by a special district, county, or a private undertaking in most Florida localities.

The second functional area that diverges from the general pattern of expenditures in 1965 when compared to 1960 is highways. Even a partial understanding of this function must be left until more sophisticated analysis can be undertaken in later chapters.

If the assumption is made that the expenditure level is only an indication of the demands of the participants, then it follows that there was an increase in demand for better municipal services in general. This is particularly true for the functional areas of police and fire protection. How much of a demand increase this represents is somewhat difficult to evaluate. Inflation is an important factor in this aspect

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[2] U. S. Bureau of the Census, County and City Data Book, 1967: A Statistical Abstract Supplement (Washington, D. C.: U. S. Government Printing Office, 1967), p. 492.

The 1960 consumer price index was 103.1 and the index on the same base for 1965 was 109.9[3] This represents a 6.59 percent increase in 1965 over 1960. Considering that average per capita total expenditure in the 21 Florida cities increased only 5.83 percent for the same period, price increases may have accounted for a significant portion of the $9.42 per capita additional expenditure in 1965

The increase in police and fire functional areas might indicate a substantial upgrading in service level, while the decrease in the other areas indicate that there was a relative decrease in the demand for higher service levels in these areas

In any case, additional data are needed on per capita revenue totals and the effects of other variables must be held constant before further generalizations can be made. The following chapters undertake this task.

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[3] Office of Business Economics, U. S. Department of Commerce, *Business Statistics, 1967 A Supplement to the Survey of Current Business* (Washington, D. C.: U. S. Government Printing Office, 1967), p. 38.

CHAPTER IV

REVENUE PATTERNS IN FLORIDA CITIES: AN OVERVIEW

A generalized description of the expenditure side of Florida municipal operation was given in Chapter Three. The present chapter will focus on the revenue side of the budgets as well as the important factor of municipal debt.

Revenue

Tables 4.1 and 4.2 present per capita revenue figures for the 21 study cities in the two selected time periods. The column headings in these tables are the standard revenue categories used by the United States Bureau of the Census. These categories do not completely fit the accounting scheme of most Florida municipalities, but they do have the advantage of presenting diverse data in uniform categories.

The per capita total revenue category includes all tax and nontax revenue of the city with the exception of utility and insurance trust fund revenue. The per capita total tax sums represent all city imposed taxes, including tax on real and personal property, gross receipts tax (a license fee that has a variable rate depending on the business volume of

TABLE 4 1

1960 PER CAPITA REVENUE TOTALS FOR 21 FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

City	Total Revenue	Total Tax	Property Tax	Sales & Gross Recpts. Tax	Charges & Misc Revenue	Intergov Revenue
Clearwater	$ 93.84	$64.61	$31.94	$27.67	$29.23	$ 0
Coral Gables	137.67	91.45	56.13	27.13	46.21	0
Daytona Beach	100.94	74.98	46.36	21.79	25.37	1.58
Ft Lauderdale	111.23	82.18	44.20	.0	29.02	.02
Ft. Pierce	68.85	42.84	19.95	18.21	25.69	.31
Gainesville	61.31	37.57	20.53	14.24	22.49	.24
Hialeah	56.44	38.64	14.64	.0	17.79	0
Hollywood	129.43	83.74	47.64	27.92	45.69	.0
Jacksonville	71.66	49.00	24.67	.0	22.07	.58
Lakeland	85.17	46.36	23.28	19.10	34.24	4.57
Miami	115.42	87.44	59.96	.0	25.54	2.43
Miami Beach	190.07	156.36	119.93	.0	33.68	0
North Miami	90.35	61.16	36.92	.0	28.66	.52
Orlando	75.49	53.74	29.56	.0	21.28	.46
Panama City	63.50	45.95	21.24	18.15	17.40	15
Pensacola	56.91	39.11	9.21	.0	15.32	2.46
St Petersburg	123.68	63.06	36.93	.0	60.43	18
Sarasota	108.05	69.68	36.29	26.61	35.14	3.22
Tallahassee	76.14	26.76	10.23	14.19	47.47	1.90
Tampa	90.78	50.20	27.08	.0	38.67	1.90
West Palm Beach	96.16	70.23	40.19	.0	25.35	.56
Mean	95.38	63.57	36.05	11.19	30.71	1.00

TABLE 4 2

1965 PER CAPITA REVENUE TOTALS FOR 21 FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

City	Total Revenue	Total Tax	Property Tax	Sales & Gross Recpts Tax	Charges & Misc Revenue	Intergov Revenue
Clearwater	$126.30	$84.62	$43.86	$35.53	$39.55	$2.11
Coral Gables	174.87	114.30	67.82	36.74	51.60	8.97
Daytona Beach	95.95	88.27	47.90	0	2.81	4.86
Ft. Lauderdale	127.14	89.89	46.28	38.12	32.53	4.71
Ft Pierce	65.26	43.03	17.56	21.23	21.13	1.10
Gainesville	68.40	39.63	21.00	.0	23.18	5.58
Hialeah	56.34	47.16	17.97	23.61	6.07	3.11
Hollywood	101.52	63.10	30.80	26.46	26.44	3.11
Jacksonville	97.66	63.59	31.67	27.54	30.66	3.41
Lakeland	87.48	51.33	22.33	0	31.00	5.15
Miami	106.17	80.39	52.31	21.49	19.33	6.44
Miami Beach	196.50	161.52	120.86	25.27	29.86	5.10
North Miami	99.48	59.21	32.27	0	29.39	10.90
Orlando	94.23	61.53	32.54	24.15	31.98	.51
Panama City	81.05	59.74	32.27	0	21.14	.20
Pensacola	79.24	47.08	13.16	26.86	25.78	6.37
St Petersburg	152.89	74.45	42.50	25.54	77.24	1.19
Sarasota	120.74	75.38	38.58	0	41.41	3.94
Tallahassee	100.80	31.52	11.98	0	67.72	1.56
Tampa	88.93	56.68	29.33	20.96	24.99	7.25
West Palm Beach	121.35	91.67	53.13	31.38	28.98	.69
Mean	106.67	70.71	37.86	18.19	31.57	4.07

the establishment), license fees, and permits. The category of per capita sales and gross receipts tax includes only the gross receipts tax for Florida municipalities because no direct sales tax is levied by Florida cities. Per capita charges and miscellaneous totals represent current charges, special assessments, and other general revenue. Per capita intergovernmental revenue includes all amounts received from any government as aid or for services rendered.[1]

Most revenue categories have moved slightly upward in the five year period, as can be seen in Tables 4.1 and 4.2. In the total revenue figures, there are, however, some exceptions to this. Daytona Beach, Ft. Pierce, Hialeah, Hollywood, Miami, and Tampa all show lower per capita revenues in 1965 than in 1960. Other generalizations can be made from the tables: in 1960, five cities did not receive any type of payment from other governmental levels, but in 1965 all cities received at least token payments from some other level of government. Also, 47.62 percent of the total number of cities in 1960 did not levy a tax on gross receipts, while in 1965 only six cities, 26.57 percent of the total, did not use this tax method. Generally the data indicate that the 21 cities were more similar in their revenue structures in 1965 than they were in 1960.

The changing structure of municipal revenue in Florida can be seen from the data presented in Table 4.3, summarizing the average per capita totals in 1965 and 1960. Total revenue increased by $11.29 per person from 1960 to 1965, a change of 11.83 percent. Total taxes increased $7.13 per capita, an 11.21 percent increase. Property taxes increased very little, only $1.81 per capita or 5.02 percent. Other categories increased by relatively large amounts. Revenue from sales and gross receipts taxes increased $7.00 per capita, a change of 62.55 percent. Per capita charges and miscellaneous revenue increased 23.28 percent, or $7.15. The intergovernmental revenue category increased from the small 1960 base of $1.00 per capita to $3.07 in 1965, an increase of 307 percent.

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[1] U. S. Bureau of the Census, *County and City Data Book, 1967: A Statistical Abstract Supplement* (Washington, D. C.: U. S. Government Printing Office, 1967).

TABLE 4.3

SUMMARY OF AVERAGE PER CAPITA REVENUE IN 1960 AND 1965 FOR 21 FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

Category	1960	1965	Change 1960-65	Percentage Change 1960-65
Total Revenue	$95.38	$106.07	$11.29	11.83
Total Tax	63.57	70.71	7.13	11.21
Property Tax	36.05	37.86	1.81	5.02
Sales and Gross Receipts	11.19	18.19	7.00	62.55
Charges and Misc. Revenue	30.71	37.86	7.15	23.28
Intergovernmental Revenue	1.00	4.07	3.07	307.00

The relative importance for each category in the city revenue structures can be seen in Table 4.4. The importance of intergovernmental revenue increased substantially in this time period, but in 1965 it still accounted for only 3.83 percent of the total average revenue. Charges and miscellaneous revenue were still very important as a source of revenue in 1965 at 29.60 percent of total revenue, but this importance had declined somewhat from the 1960 totals. Total taxes were constant in both years, accounting for about two-thirds of all revenue. The two most interesting differences occurred in the two major components of tax revenue. The importance of property taxes decreased very slightly in the five-year time period from 37.80 percent of total revenue in 1960 to 35.49 percent of total revenue in 1965. Gross receipts taxes, on the other hand, increased substantially from 11.73 percent of total revenue in 1960 to 17.05 percent of total revenue in 1965.

These data indicate that the tax structure of Florida municipalities has been undergoing a substantial change. Relatively speaking, although total taxes are almost constant as a percentage of total revenue, property taxes increased only $1.81 per capita in the five year period. This is a continuation of a long term trend. Property taxes were 49.7 percent of total municipal revenue for the state's cities in 1948 and 43.7 percent of the revenue collected in 1950.[2] This can be compared to the

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[2] Wylie Kilpatrick, Revenue and Debt of Florida Municipalities and Overlying Governments (Gainesville, Florida: Public Administration Clearing Service, 1953), p. 39.

TABLE 4.4

SUMMARY OF AVERAGE PER CAPITA REVENUE SOURCES AS A PERCENTAGE OF TOTAL REVENUE IN 1960 AND 1965 FOR 21 FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

Category as a Percentage of Total Revenue	1960	1965	Change 1960-65
Total Tax	66.65%	66.29%	-.36%
Property Tax	37.80	35.49	-2.31
Sales and Gross Receipts Tax	11.73	17.05	5.32
Charges and Misc. Revenue	32.19	29.60	-2.59
Intergovernmental Revenue	1.05	3.83	2.78

1965 situation where property taxes made up only 35.49 percent of the total revenue of the municipalities. Proceeds from gross receipts taxes increased by 62.56 percent in the five-year period studied, and their importance as a source of total revenue increased with a change of 5.32 percent. This indicates that taxes levied on businesses are increasing in total volume and the relatively flat charge for business license and permits is being replaced by the sales volume oriented gross receipts tax. It is assumed by the writer that these higher business taxes are being passed on the actual consumer of the goods or services sold in the form of higher prices.

The relative importance of these categories can be seen in the simple correlations in Table 4.5, based on 1960 per capita totals. The correlation between total revenue and total taxes is very high, r = .942. The coefficient of determination is .887, indicating that about 89 percent of the variation in taxes is associated with the variation in revenue. An additional statistically significant relationship is seen in the r of .448 between per capita charges and miscellaneous revenue and total revenue. The remaining categories indicate that there is little relationship in the variation among these variables in the Florida municipalities.

TABLE 4.5

CORRELATION COEFFICIENT BETWEEN 1960 TOTAL PER CAPITA REVENUE AND MAJOR PER CAPITA REVENUE CATEGORIES IN 21 FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

Category	Per capita total revenue
Total per capita tax	.942[a]
Per capita property tax	-.051
Per capita sales and gross receipts tax	.068
Per capita charges and misc. revenue	.448[b]
Per capita intergovernmental revenue	.137

[a] Significant at the .01 level.

[b] Significant at the .05 level.

Although property taxes are still the largest single source of revenue for Florida municipalities, the study cities appear to be relying on this tax source less than they did in the past. The revenue increases for most communities appear to be coming from consumer oriented taxes such as the gross receipts tax and charges and miscellaneous revenue sources. In addition, intergovernmental transfers are becoming more important.

There is an additional major source of municipal revenue that is not reported in the Census Bureau reports on municipal finance--the cigarette tax. This tax of five cents per package of twenty cigarette is levied by the municipality but is actually collected by a central state agency. The proceeds minus an administrative fee are returned to the municipality where the package of cigarette was sold. In Table 4.6 it can be seen that this revenue source, as with all others, has gradually increased from an average per capita return to these cities of $8.53 in fiscal year 1961 to $12.00 in fiscal year 1966. The cities known to have a large influx of tourists in at least part of the year have a higher per capita revenue total than do the cities that do not have tourist-oriented economies. Presumably, if people stop smoking cigarettes for health reasons in the future, this revenue source would become less important than now is the case.

TABLE 4 6

PER CAPITA CIGARETTE TAX COLLECTIONS IN 1960-61 AND 1965-66 IN FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

City	1960-61[a]	1965-66[b]
Clearwater	$9.53	$13.74
Coral Gables	7.80	11.28
Daytona Beach	9.41	15.71
Ft. Lauderdale	10.04	14.77
Ft. Pierce	8.94	11.96
Gainesville	8.92	10.38
Hialeah	7.79	11.44
Hollywood	9.38	14.84
Jacksonville	7.34	10.39
Lakeland	8.31	12.93
Miami	9.03	10.80
Miami Beach	10.82	14.94
North Miami	7.95	12.73
Orlando	8.06	11.15
Panama City	6.45	8.85
Pensacola	6.07	8.19
Sarasota	12.60	15.05
St. Petersburg	6.70	8.98
Tallahassee	7.40	10.89
Tampa	7.09	9.50
West Palm Beach	9.63	13.64
Mean	8.53	12.00

[a] Computed from data in *Report of the Comptroller of the State of Florida for the Fiscal Year Ended June 30, 1961* (Tallahassee: State of Florida, 1962), pp. 294-298.

[b] *Ibid.*, 1966, pp. 352-357.

Municipal Debt

The structure of municipal revenue is not complete without some discussion of debt. Aggregate totals previously presented indicate that the study cities spent $11.29 more than they collected in 1960 and $9.42 more than they collected in 1965 (not including the cigarette tax). Part of this is no doubt due to the fact that the standardized expenditure and revenue categories do not accurately reflect all city transactions. Utility revenue is not counted in these totals, but for some cities sizeable profits accrue from this source. Despite this rationalization, however, few city budgets are balanced every year. Short-term borrowing is used, and these deficits are paid from the surplus of ensuing years' budgets. In addition, a portion of the budget totals spent for capital expenditures is funded by long-term bond sales.

In Table 4.7, per capita debt totals are given for the study cities. It can be seen that the trend is generally upward, but there are some variations among the cities. This is similar to the trend shown for municipal revenue figures and the various expenditure levels in the functional areas of concern. Average per capita debt increased by 20.06 percent in the five year period.

The city of Orlando had the highest per capita debt total of all cities in 1965 and Lakeland had the highest total in 1960. These totals were $690.72 and $952.98 respectively. In contrast, the per capita debt burden in Hialeah was $26.63 in 1960 and only $27.35 in 1965. Interviews with Hialeah city officials elicited from them their extreme pride in their consistent "pay as you go" philosophy of government. It may not be insignificant that per capita sewarage expenditures were low in Hialeah, $1.17 in 1967. The municipality had only minimal participation in this area of service that requires large initial capital outlays.

These cities with the highest per capita debt in both years tended to be cities that operated electrical utility systems. In most of these cities, considerable profits are generated from these utility operations, and these profits are transferred to the general fund account. It would be possible for a city to operate with city services at a higher level without increased taxes because of these utility profits. This does not appear to be the case in the 21 cities studied here. Electrical utility profits are used as a substitute for other revenue sources, and not as a means to systematically increase total revenue levels above those set by other cities.

The aggregate data suggest that some municipalities have a tendency toward amortizing the costs of services over a long period of time by the use of debt. In Table 4.8, it can be seen that there was a small negative correlation between per capita expenditure for the important functional areas and per capita debt. These relationships, although not statistically significant in most cases, indicate that there is a slight relationship between lower current expenditure in the functional areas and high debt levels. The only relationship that is statistically significant at the .05 level is the association between highway expenditure in 1960 and per capita debt in 1960 and 1965, indicating that a significant part of the debt is being used to finance highway construction programs.

TABLE 4.7

PER CAPITA DEBT FOR 1960 AND 1965 FOR FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

City	1960	1965	Percent Change 1960-65
Clearwater	$319.56	$405.79	26.98%
Coral Gables	333.71	246.79	-26.04
Daytona Beach	293.22	376.13	28.27
Ft. Lauderdale	265.63	265.60	- .01
Ft. Pierce	461.87	595.16	28.85
Gainesville	494.59	557.27	12.67
Hialeah	26.63	27.35	2.70
Hollywood	358.43	223.20	-37.72
Jacksonville	575.97	756.70	32.94
Lakeland	690.22	941.11	36.34
Miami	304.92	252.45	-17.20
Miami Beach	358.46	253.32	-29.33
North Miami	342.06	742.42	117.04
Orlando	683.49	952.98	39.42
Panama City	407.33	587.14	44.14
Pensacola	324.86	335.22	3.18
St. Petersburg	214.74	363.31	69.18
Sarasota	370.59	278.20	-24.93
Tallahassee	566.17	695.45	22.83
Tampa	216.49	309.12	42.78
West Palm Beach	380.24	431.10	13.37
Mean	380.48	456.81	20.06

TABLE 4.8

SIMPLE CORRELATION BETWEEN PER CAPITA EXPENDITURE AND REVENUE FOR SELECTED AREAS AND PER CAPITA DEBT IN 1960 AND 1965 FOR 21 CITIES IN FLORIDA WITH 1960 POPULATIONS OVER 25,000

Variable	1965 Debt	1960 Debt
1965 General Operating Expenditure	.022	.003
1965 Highway Expenditure	-.126	-.214
1965 Police Expenditure	-.083	-.125
1965 Fire Expenditure	-.046	-.038
1965 Sewerage Expenditure	-.035	-.131
1965 Other Sanitation Expenditure	-.149	-.069
1965 Parks and Recreation Expenditure	-.375	-.163
1965 Health, Welfare, & Hospital Exp.	.128	.094
1965 Total Revenue	N. A.	-.126
1960 General Operating Expenditure	-.029	-.231
1960 Police Expenditure	-.318	-.017
1960 Fire Expenditure	-.222	-.018
1960 Highway Expenditure	-.528[a]	-.442
1960 Sanitation Expenditures	.213	.363
1960 Health, Welfare & Hospital Exp.	.102	.001
1960 Total Revenue	-.136	-.193

[a] Significant at the .05 level.

Summary

The policy output model presented in the first chapter suggested that revenue "mix" and expenditure "mix" were policy decisions of the municipal system. This "mix" can be defined as the relative importance of revenue and expenditure categories in relationship to total revenue and expenditure levels. The relationship is obviously very complicated and the full relationship can best be explained by the use of the multivariate techniques used in the following chapters, but some important conclusions may be reached on the basis of the simple analysis that has been attempted up to this point.

As seen in chapter three, the level of expenditure had been generally upward in the Florida municipal system. This raise is no doubt due in part to citizen demand. When expenditure levels rise, revenue levels must also rise in order to meet the new demands.[3]

An analysis of revenue totals indicated that property tax rises tend to be avoided if at all possible. Ample evidence indicates that Florida governmental officials and voters do not intend to rely on this tax source as a fountain of unlimited revenue. The Constitution of 1885 gave a $5,000.00 homestead exemption for all home owners, i. e., no taxes could be levied on this minimal amount of home value.[4] After the field portion of this study was completed, a new Florida Constitution was adopted which not only included the $5,000 exemption but also gave the legislature authority to double the amount of exemption. In addition, the new Constitution contained the requirement that limited local governments to a ten mill levy on property.[5] If a bond is to be paid by a pledge of ad valorem taxes, the majority of those voting in an election must approve with the further requirement that a majority of the freeholders must participate.[6] Furthermore, local governments are now constitutionally limited to a ten mill levy on real property.

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[3] This is the explanation preferred by the author, although one could also argue that expenditures have risen in order to spend the increased revenue.

[4] Florida State Constitution (1885), Article X, Section 7. An additional tax exemption of $500.00 of home value was also granted to widows and disabled veterans. See Ibid., Article IX, Section 9. These sections were amended in 1937.

Local governments have faced a dilemma as a result of citizen demand for more and improved services in most cities on the one hand, and, on the other hand, a combination of limitations on their taxing power as well as citizen demand that taxes not be raised. This dilemma appears to have been solved by raising business taxes instead of property taxes. The incidence of this business tax is primarily on the consumer, and in some cases the consumer is not a resident of the city and may be an out-of-state tourist. Bond issues have been used in order to amortize the high cost of capital expenditures over the useful life of the facility. The repayment pledge for these bonds tends to be tied to nonwealth related revenue sources, and when this is the case voter approval is not needed [7]

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[5] Florida State Constitution (1968), Article VII, Section 9(b).

[6] Florida State Constitution (1885), Article IX, Section 6.

This interesting municipal system policy seems to be widespread in Florida and appears to be structured by what decision makers perceive their constituents want. The policy of high service levels, low tax rates on wealth of any kind, and high consumer taxes appears to be the desired municipal output

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[7] Florida courts have held that bonds backed by the pledge of revenue from a revenue producing facility do not need voter approval See *State* v *City of Miami*, 72 Southern 2nd, 655 (Florida, 1954). Excise taxes may be pledged to pay off the bond payments without voter approval in *Panama City* v *State*, 93 Southern 2nd 608 (Florida, 1957) and a voter referendum is not needed when ad valorem taxes are pledged in the event that there will not be enough earned revenue to pay the bond payments in *State* v *City of West Palm Beach*, 125 Southern 2nd, 568 (Florida, 1960)

CHAPTER V

DEMOGRAPHIC VARIABLES AND MUNICIPAL POLICY

The municipal policy output model in chapter one suggested that policy decisions can be accounted for by the measurable variations in certain independent variables. As a first step in investigating this relationship, simple correlation coefficients were obtained for all possible pairings of variables under consideration, resulting in a large, unmanageable correlation matrix of 64 X 64 variables. In order to better understand the relationships involved, the independent variables were divided into three groups for further analysis. These groups were demographic variables, socio-economic variables, and political variables. The first group of independent variables--demographic ones--is analyzed in this chapter.

Variables

A small number of variables were chosen to represent the demographic input into the municipal system.

X_1 1960 city population,

X_2 1965 city land area,

X_3 percent population change (1950-1960),

X_4 1965 city population,

X_5 percent of residents over age 65 in 1960,

X_6 median age in 1960, and

X_7 population density in 1965.

These variables were operationalized using indicators of demographic phenomena in two time periods, 1960 and 1965. Measures of output variables were also obtained for the same periods. Early analysis indicated that the actual date of measurement was not too important for the independent variables. An example of this may be seen in Table 5-1. The population in 1960 and population in 1965 correlate very highly, r = .993. The measurement of the same thing in two time periods results in two indicators of the same variable and this is not needed for analysis. The indicator of the variable that was based on the best original information is used as the indicator of the variables to be used for analysis purposes.

TABLE 5.1

CORRELATION MATRIX OF ALL DEMOGRAPHIC VARIABLES

Variable	X_1	X_2	X_3	X_4	X_5	X_6	X_7
X_1 1960 pop	1.000	.715	-.128	.993	.073	.088	.483
X_2 1965 area		1.000	-.031	.742	.155	.063	-.110
X_3 Pop. change			1.000	-.083	-.053	.092	-.105
X_4 1965 pop				1.000	.075	.096	.475
X_5 Percent over age 65					1.000	.942	.250
X_6 Median age						1.000	.395
X_7 Density							1.000

Multicollinearity exists when two or more variables are so highly associated that they are merely indicators of the same thing. Two cases of this can be seen clearly in Table 5.1. The correlation between population totals at the two time periods is so high as mentioned above, that both indicate the same thing, city size. In order to avoid problems associated with multicollinearity, variable X_4, 1965 population was deleted from further analysis. The same situation occurs with variables X_5 and X_6. The correlation between the two is .942, indicating that cities with a high percentage of people over age 65 also have populations with high median ages. Variable X_5, percent of residents over age 65 in 1960, was deleted from further analysis.

Hypotheses

Chapter Two hypothesized that the demographic environment of municipalities accounted for at least a major portion of the variation in municipal policy. The analysis in this chapter uses demographic data as independent variables with municipal policy as the dependent variable. Municipal policy is operationalized as per capita expenditure and revenue totals. The particular hypotheses to be tested are as follows:

D-1. The demographic environment of the community accounts for a significant amount of variation in per capita expenditure and revenue in Florida municipalities.

a. The larger the population, the higher a city's per capita expenditure and revenue is expected to be.

b. The more rapid the growth of a city, the higher the per capita expenditure and revenue is expected to be.

c. The larger a city's land area, the higher that city's per capita expenditure and revenue is expected to be.

d. The more densely populated a city, the higher the per capita expenditure and revenue is expected to be.

e. The higher the age of a city's inhabitants, the higher the per capita expenditure and revenue is expected to be.

In order to test the above hypotheses, the simple correlation coefficients between the independent variables and dependent variables were calculated. The measure of the dependent variables that was used in this case was per capita budget totals for 1965.

TABLE 5.2

SIMPLE CORRELATIONS BETWEEN 1965 OUTPUT MEASURES AND DEMOGRAPHIC VARIABLES

	Variables	Pop X_1	Area X_2	Pop Change X_3	Age X_4	Density X_5
Y_1	Total general revenue	.038	-.066	-.119	.776	400
Y_2	Total taxes	.013	-.098	-.160	.779	489
Y_3	Property taxes	.076	-.082	-.179	.781	593
Y_4	Gross receipts tax	.264	.110	.188	.356	.232
Y_5	Intergovernmental revenue	124	.048	102	.083	.227
Y_6	Charges & misc. revenue	450	.019	-.016	.211	.035
Y_7	Total general expenditure	-.184	.146	-.142	.553	.331
Y_8	Total general expenditure (excluding capital outlay)	.098	-.079	-.430	.452	.451
Y_9	Police expenditure	.194	-.021	-.478	.440	511
Y_{10}	Fire expenditure	.429	.154	-.196	.310	525
Y_{11}	Highway expenditure	.248	.472	.124	.219	.212
Y_{12}	Sewerage expenditure	.064	.310	.311	.098	.133
Y_{13}	Other sanitation expend.	-.005	-.231	-.051	.550	382
Y_{14}	Health, welfare & hospital expenditure	.108	.147	-.104	-.005	.013
Y_{15}	Parks and recreation expend.	.145	.032	-.134	.744	500

Analysis

There appeared to be some rather interesting associations between the demographic variables and municipal policy output, as shown in the correlations in Table 5.2. Several high associations bear further analysis, particularly the linkage between density and policy output, as well as between age and policy output.

In order to explore more completely the relationships involved, demographic variables and 1965 output data were subjected to a series of regression analyses. The relationship between dependent variables, output data in this case, and independent variables was analyzed with the aid of a stepwise multiple correlation program. The program initially fits all independent variables to a linear regression equation of the form $Y = a + b_1X_1 + b_2X_2 \ldots + b_nX_n$. The independent variable that contributes least to the total mean sum of squares is deleted in the next step, a process which continues in a stepwise fashion until only one independant variable is left in the equation $Y = a + bX$. The dependent control variable used was Y_g, total per capita general operating expenditure (excluding capital outlay). This was used instead of general operating expenditure because of the possibility that capital expenditures were being lumped into a single year by some municipalities and not spaced out uniformly over several years.

Table 5.3 presents the results of the analysis of the control dependent variable. The independent variables are listed in reverse order in which they were deleted by the stepwise procedure. The coefficient of multiple determination (R^2) shown is for the corresponding step in the procedure. Thus in Table 5.3 where all variables are included, the coefficient of multiple determination is .502. When variable X_2 was deleted, the R^2 fell to .497, indicating that area is not by itself a very good predictor of expenditure for this category. The regression coefficients (b) are for the first step in the procedure unless otherwise specified. The simple correlations shown (r) are product moment correlations between the corresponding independent variable and the dependent variable under consideration.

It was necessary to compute the standardized regression coefficients in order to control for the differences in the relative size of the measuring units. Each regression coefficient was standardized as suggested by Blalock.[1] They "indicate *how much change* in the dependent variable is produced by a standardized change in one of the independent variables when the other variables under consideration are controlled."[2] These coefficients (B) serve the purpose of predicting the influence of any independent variable on the dependent variables when the influence of other independent variables are controlled. In addition, the standardized regression coefficients can be used to organize the independent variables in order of their importance as influences on the dependent variable.

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[1] Hubert M. Blalock, *Social Statistics* (New York: McGraw-Hill Book Co., Inc., 1960), pp. 343-346.

[2] *Ibid.*, p. 345.

In order to tell whether or not the coefficient of multiple determination is high enough for one to be confident that it did not occur by chance, a significance test is used. The significance test used here is the F test suggested by Blalock.[3] The actual distribution is not shown in the following tables, but appropriate notation as to the probability of this distribution occurring by chance is given in the first column.

The regression equation for Table 5.3 is as follows:

$$Y_8 = 45.052 + 1.131X_6 + .00498X_7 + .2767X_2 - .0196X_3 - .001X_1$$

This equation predicts that per capita expenditures will increase by $1.13 for each year's rise in the median age, increase about one-half cent for the increase in density of 100 people per square mile of area, decrease about two cents for each percentage point increase in growth rate, and decrease minutely for each new resident added. The importance of each variable can be seen more easily by noting the relative size of the standardized regression coefficient. A comparison of these "controlled" coefficients and the simple correlations also shows that there is a slight problem of multicollinearity. The simple correlations show that age, density, and population change, in that order, account for much of the change in the dependent variable. When multicollinearity is controlled, their importance for prediction changes to the order of population change, density, and median age.

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[3] Ibid., pp. 354-357.

TABLE 5 3

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR DEMOGRAPHIC VARIABLES AND PER CAPITA GENERAL OPERATING EXPENDITURE (EXCLUDING CAPITAL OUTLAY), Y_8

Indept Variable	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Regression Coefficient B
X_6 Median age	$.204^a$	.452	1.131	.335
X_3 Pop Change	$.429^b$	-.430	-.020	-.458
X_7 Density	$.480^a$	.451	.005	.448
X_1 Population	$.497^a$	.098	-.0001	-.031
X_2 Area	$.502^a$	-.079	.227	.169
	Intercept 45.052			

^{a}F test significant at the .05 level.

^{b}F test significant at the .01 level.

All five variables are of consequence for predicting expenditure in this case. The first three variables deleted in the stepwise regression procedure presented an interesting situation. Two relatively non-associated variables, median age and population change, account for almost 43 percent of the variation in the dependent variable; and this is significant at the .01 level of probability. Density, population, and area, although accounting for only 7 percent of the variation in the dependent variable, still have a coefficient of multiple determination at a level high enough to be significant at the .05 level of probability.

The results of the stepwise procedure using variable Y_7, total general per capita operating expenditure (the same as variable Y_8, except that capital expenditure was added), as the dependent variable are shown in Table 5.4. When capital expenditures are included, the predictive power of the demographic variables generally declines. This indicates that something other than demographic variables is more important for capital expenditure decisions than for current operating expenditures. The most notable difference is that in this new situation median age and population change are the only variables that are of significance for predicting output. Median age predicts 30.6 percent of the expenditure which is significant at the .01 level, and population change predicts an additional 4.3 percent of the variation in the dependent variable, which still allows the two predictive variables to have a combined predictive value that is significant at the .05 level. The other three variables--density, population, and area--are of little value in predicting this category of expenditure.

TABLE 5.4

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF DEMOGRAPHIC VARIABLES AND PER CAPITA TOTAL GENERAL OPERATING EXPENDITURE, Y_7

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median Age	.306[b]	.553	1.763	.459
X_3 Pop. change	.343[a]	-.142	-.009	-.182
X_7 Density	.352	.331	.003	.230
X_1 Population	.358	-.184	-.00009	-.244
X_2 Area	.374	.146	.581	.312
Intercept 39.753				

[a] F test significant at the .05 level.

[b] F Test significant at the .01 level.

By deleting the independent variables in the order dictated by the control dependent variable, Y_8, the stepwise regression program was run for each available measure of output for 1965 data. The importance of demographic variables for predicting police expenditure is seen in Table 5.5. Three variables were able to predict 55 percent of the variation in police expenditure in the Florida cities. Although the addition of the remaining two variables adds little more to the predictive power of the regression equation, the combined power of all five independent variables is still significant at the .05 level of probability. It is quite apparent from the data presented in Table 5.5 that large, densely populated cities that are growing slowly tend to spend significantly more per capita on police services than do the small suburban type communities that are still growing rapidly.

TABLE 5.5

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR DEMOGRAPHIC VARIABLES AND PER CAPITA POLICE EXPENDITURE, Y_9

Indep Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median Age	194[a]	440	215	.303
X_3 Pop change	465[b]	- 478	- 004	-.437
X_7 Density	549[b]	511	.001	.429
X_1 Population	.553[b]	.194	-.00002	-.292
X_2 Area	559[a]	- 021	.065	.189
	Intercept 5 920			

[a] F test significant at the .05 level.

[b] F test significant at the .01 level.

Variables chosen to represent the demographic system account for about 35 percent of the fire control expenditure levels. The standardized regression coefficients shown in Table 5.6 indicate that these variables, however, are not as good predictors for fire services as they are for the previously discussed categories of expenditure. Density and population are the best single predictors, but their value is fairly limited. No combination of demographic variables can predict per capita expenditure levels at a statistically significant level. Fire control programs do not seem to be strongly related to this set of independent variables.

TABLE 5.6

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR DEMOGRAPHIC VARIABLES AND PER CAPITA FIRE EXPENDITURE, Y_{10}

Indep. Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median age	096	310	077	164
X_3 Pop. change	.147	-.196	-.0009	-.015
X_7 Density	.314	.525	.0005	.334
X_1 Population	356	492	.000	.200
X_2 Area	356	.154	007	032
	Intercept 5 052			

When average per capita expenditures are used as the dependent variable, city population and area become the two best predictors of program cost. Large population centers tend to spend less money per capita for sewers, while cities with large land areas tend to spend more. These relationships were expected because building and maintaining sewer lines constitute the main cost of the disposal system. The relationship shown in Table 5.7 indicates slight tendencies in the direction of economies of scale for operating municipal sewer systems in Florida. When adequate lines are constructed and the plant capacity is not over-extended, it would cost relatively little to add a few more customers to the system. At the same time, sewer systems in cities with large land areas, many miles of line, and severely under-utilized plants tend to be slightly more expensive to operate. However, although the predictive direction is in the expected direction, demographic variables do not predict per capita sewerage expenditures at a statistically significant level.

TABLE 5 7

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR DEMOGRAPHIC VARIABLES AND PER CAPITA SEWERAGE EXPENDITURE, Y_{12}

Indep. Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median age	.009	098	+ 025	+ 028
X_3 Pop. change	101	,311	003	,261
X_7 Density	122	,133	,0007	,238
X_1 Population	157	064	-,00007	-,528
X_2 Area	249	310	321	743
		Intercept 1 870		

Table 5.8 shows that median age and area are the two more significant demographic variables for predicting the cost of sanitation programs (chiefly involving refuse collection). Older people appear to demand a significantly higher level of refuse collection. In addition, cities with larger areas tend to spend less than cities with small areas. The same forces may be at work in both cases. The young would be able to dispose of refuse more easily, hence there would be less demand for the increased service. Cities with large areas tend to have less densely settled fringe areas which as probably largely new subdivisions occupied by younger people where there is still not too great of a demand for more public refuse collection.

TABLE 5.8

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENT FOR DEMOGRAPHIC VARIABLES AND PER CAPITA OTHER SANITATION EXPENDITURE, Y_{13}

Indep Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median age	.302[b]	.550	.367	.586
X_3 Pop. change	.313[a]	-.051	-.0007	-.087
X_7 Density	.344	.382	-.0001	-.049
X_1 Population	.374	-.005	.00002	.255
X_2 Area	.418	-.231	-.156	-.514
	Intercept 0.321			

[a] F test significant at the .05 level.

[b] F test significant at the .01 level.

Median age is the most important demographic predictor of expenditure levels for parks and recreation programs. Table 5.9 indicates that age alone accounts for more than 55 percent of the variation in the level of expenditure. The other four independent variables account for an additional 10 percent of the expenditures for parks and recreation with density alone accounting for 4.2 percent of the variation. Older people, having more leisure time, especially if retired, apparently demand a higher level of service in this area. Cities with densely populated areas

TABLE 5 9

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION AND REGRESSION COEFFICIENTS FOR DEMOGRAPHIC VARIABLES AND PER CAPITA PARKS AND RECREATION EXPENDITURE, Y_{15}

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median age	.554[c]	.744	.689	.594
X_3 Pop. change	.596[c]	.134	-.003	-.200
X_7 Density	.634[c]	.500	.002	.525
X_1 Population	.636[b]	.145	-.00004	-.358
X_2 Area	.641[b]	.032	.169	.300
		Intercept -16,055		

[b] F test significant at the .01 level

[c] F test significant at the .001 level

also have very high cost programs. This is, no doubt, a reflection of the high cost of providing recreation facilities on the relatively expensive land in densely populated neighborhoods. Cities showing low density, on the other hand, would be more likely to have larger numbers of the population with spacious backyards or private recreational activities.

TABLE 5.10

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF DEMOGRAPHIC VARIABLES AND PER CAPITA HIGHWAY EXPENDITURE Y_{11}

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median age	000	219	356	479
X_3 Pop change	059	124	0009	094
X_7 Density	.157	212	- 002	-.810
X_1 Population	416	.248	00006	838
X_2 Area	427	472	- 092	- 255
	Intercept 6 202			

Highway expenditure levels and demographic variables present an interesting relationship. The simple correlations between these variables indicated that area was the only variable that had a significant relationship with highway expenditure However, in Table 5.10 it can be seen that when the influence of the other independent variables is controlled, this interesting relationship disappears. There appear to be no statistically significant relationships between the demographic environment and per capita highway expenditures

The remaining category of per capita expenditures for health, welfare, and hospital services was entered in the stepwise regression programs, but no significant results were obtained. The five independent variables predicted less than three percent of the expenditure categories are not areas of primary municipal concern in Florida, because they are the object primarily of county and state emphasis. The results of this meager relationship are not shown in tabular form here, because demographic variables seem to be of no importance for municipal decision-making in this functional area.

The relative importance of municipal revenue sources is another valuable indicator of municipal policy. In order to understand better the reasons for relying on one source more than other sources, per capita revenue figures for each of the main categories of revenue were entered as dependent variables in the stepwise regression program. The results of this are shown in the tables below.

Per capita total general revenue was used as the dependent variable with rather interesting results, as seen in Table 5.11. A single variable, median age, predicted more than 60 percent of the per capita revenue in the 21 cities. This is significant at the .001 level of probability. The four additional demographic variables could add only five percent additional explanatory power to the regression equation, but even this is significant at the .01 level. When we remember that age has usually been one of the best predictors of the expenditure levels of the various functional area programs, this new finding seems quite important. Older residents apparently demand higher service levels, and they are willing to pay for them.

TABLE 5 11

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF DEMOGRAPHIC VARIABLES AND PER CAPITA TOTAL GENERAL REVENUE, Y_1

Indep Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median age	.603[c]	.776	3.441	.772
X_3 Pop. change	.639[c]	-.119	-.011	-.191
X_7 Density	.645[c]	.400	.001	.060
X_1 Population	.656[b]	.038	-.000008	-.019
X_2 Area	.658[b]	-.066	-.215	-.099
		Intercept	-4.336	

[b] F test significant at the .01 level

[c] F test significant at the .001 level.

When per capita total tax revenues are used as the dependent variable, a similar pattern is seen. Median age alone predicts over 60 percent of the tax level. The explanatory value of the other demographic variables is somewhat higher in this case, as they raise the total explanatory value to over 73 percent. This is statistically significant at the .001 level of probability. High median age and high density situations tend to be associated with high total tax levels, but cities with the larger populations tend to have a lower tax level than do smaller cities.

TABLE 5 12

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR DEMOGRAPHIC VARIABLES AND PER CAPITA TOTAL TAXES, Y_2

Indep. Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median age	.607^c	.779	2.392	.642
X_3 Pop. change	.661^c	-.160	-.011	-.229
X_7 Density	.688^c	.489	.0057	.456
X_1 Population	.725^c	.013	-.0002	-.558
X_2 Area	.734^c	-.098	.434	.240
		Intercept -25.093		

^{c}F test significant at the .001 level

Two major categories of taxes that are administered on the local level are the property tax and the gross receipts tax. In addition, a portion of the state cigarette tax is earmarked for the use of municipal governments in Florida. In fiscal year 1965-66 this amounted to $22,391,481.33 for the 21 municipalities used in this study.[4] This class of tax requires no decision-making problems for Florida city administrators with respect to its imposition and levels, as it flows in automatically from the state. The problems involved consist in allocating these taxes to expenditure areas where it is most needed. Cigarette taxes, because they are collected by the state, are not used as part of the analysis in this study.

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[4] Report of the Comptroller of the State of Florida for the Fiscal Year Ended June 30, 1966 (Tallahassee: State of Florida, 1967), pp. 352-357

TABLE 5.13

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR DEMOGRAPHIC VARIABLES AND PER CAPITA PROPERTY TAX, Y_3

Indep. Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median age	.610^b	.781	1.712	.536
X_3 Pop. change	.764^c	-.179	-.009	-.226
X_7 Density	.750^c	.595	.007	.690
X_1 Population	.784^c	.076	-.0002	-.674
X_2 Area	.811^c	-.082	.599	.401
		intercept	-43.755	

^{b}F test significant at the .01 level.

^{c}F test significant at the .001 level.

In Table 5.13, the importance of age as a predictive variable for the per capita tax level is again underscored. In this table, per capita property tax becomes the dependent variable and the value of median age as a predictor continues at the same high level, i.e., 61 percent, which is significant at the .01 level. The total group of demographic variables accounts for over 81 percent of the variation in per capita property taxes. This is significant at the .001 level of probability. The data in Table 5.13 show that either density or population size is also an excellent single predictor of tax policy in this area.

In direct contrast to the property tax-demography relationship, the relationship between demographic variables and the second largest category of locally-administered taxes is quite different. When per capita gross receipts taxes are treated as the dependent variable in Table 5.14, the five demographic variables account for only about 27 percent of the variation in this tax level. This is in contrast to the 81 percent of the variation in the property taxes that was explained by the same variables in the previous table. The F test indicates that there is no statistically significant relationship between per capita gross receipts taxes and the demographic environment.

TABLE 5 14

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR DEMOGRAPHIC VARIABLES AND PER CAPITA GROSS RECEIPTS TAX Y_4

Indep Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median age	.127	.356	.797	.449
X_3 Pop. change	.151	.188	.004	.175
X_7 Density	.167	.232	-.002	-.340
X_1 Population	.218	.264	.0001	.585
X_2 Area	.266	.110	-.462	-.537
		Intercept -4.615		

Despite the fact that there are no statistically significant relationships in this group of data, some interesting tendencies may be noted. Cities with large populations apparently have larger retail business interests that can bring in sizeable amounts of revenue from the gross receipts tax, while cities with small populations must rely upon property tax to a larger extent. The negative associations between area and density and gross receipts taxes indicate that "spread out" low density suburban-type cities may not have large enough concentrations of retail business to make effective use of this tax. It would appear that the number of retail establishments and sales volume of the retail establishments in a community would be the controlling factors in predicting per capita tax levels from the gross receipts tax.

TABLE 5.15

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR DEMOGRAPHIC VARIABLES AND PER CAPITA CHANGES AND MISCELLANEOUS REVENUE, Y_6

Indep. Variables	Coefficients of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median	.044	.211	1.007	.455
X_3 Pop. change	.046	-.016	-.001	-.035
X_7 Density	.064	-.035	-.005	-.680
X_1 Population	.075	.450	.0002	.939
X_2 Area	.149	.019	-.713	-.665
	Intercept 20.656			

Per capita charges and miscellaneous revenue are not predicted at a significant level by the demographic environment in Florida. The results of the stepwise regression analysis in Table 5.15 show that only 15 percent of this important revenue source is accounted for by the demographic variables.

A similar situation is seen when per capita intergovernmental revenue is used as the dependent variable. Aside from the fact that this revenue source is a very insignificant portion of the budget of most Florida municipalities, Table 5.16 shows that demographic variables do not account for any substantial portion of this small revenue source.

TABLE 5.16

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR DEMOGRAPHIC VARIABLES AND PER CAPITA INTERGOVERNMENTAL REVENUE, Y_5

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_6 Median	.007	.083	-.040	-.100
X_3 Pop. change	.016	.102	.0006	.126
X_7 Density	.068	.227	.0006	.495
X_1 Population	.069	.124	-.00001	-.282
X_2 Area	.089	.048	.062	.347
		Intercept	2.107	

Summary

Demographic variables as a group show varied results when used as predictors of municipal outputs. They were able to predict over 81 percent of the variation in per capita property taxes but only 9 percent of the variation in the per capita intergovernmental revenue. The other cases ranged in between these two figures. When the influence of the other demographic variables is controlled, the remaining demographic variables also show marked inconsistency as to which of them is the best single predictive variable. Table 5.17 summarizes this information. For each dependent variable, the independent variables were ranked as to their relative value as predictors. These values were given by the standardized regression coefficients. In addition, the level of significance at which that variable entered the predictive regression equation with the best fit is given.

The rankings were given a score of one for ranking number one, two for ranking number two, etc, and these scores were totaled to obtain the score reported in Table 5.17. This score is a rough indication of how important each variable is, but it also shows a consensus of the importance of each variable. Density, population, and age, in that order, were the most important independent variables. These were followed rather closely by area, with population change being the least important variable of all.

Ample material was obtained in the above analyses to test adequately the hypotheses mentioned earlier in the chapter. These are summarized in the following paragraphs.

TABLE 5.17

PREDICTIVE VALUE IN RANK ORDER OF DEMOGRAPHIC INDEPENDENT VARIABLES

Dependent Variable (Per Capita)		Independent Variable				
		Median Age X_6	Pop Change X_3	Density X_7	Pop. X_1	Area X_2
Y_1	Total General Revenue	1^c	-2^c	4^c	-5^b	-3^b
Y_2	Total Tax	1^c	-5^c	3^c	-2^c	4^c
Y_3	Property Tax	3^c	-5^c	1^c	-2^c	4^c
Y_4	Gross Receipts Tax	3	5	-4	1	-2
Y_5	Intergovernmental Rev.	5	4	1	-3	2
Y_6	Charges and Misc. Revenue	4	-5^a	-2	1	-3
Y_7	Total Gen. Oper. Expen	1^b	-5^a	4	-3	2
Y_8	Total Gen. Oper. Expen (Exclud. Cap. Outlay)	3^a	-1^b	2^a	-5^a	-4^a
Y_9	Police Expenditure	3^a	-1^b	2^b	-4^b	-5^a
Y_{10}	Fire Expenditure	5	-3	4	2	1
Y_{11}	Highway Expenditure	3	5	2	1	-4
Y_{12}	Sewerage Expenditure	-3	5	1	-2	4
Y_{13}	Other Sanitation Expend.	1^b	-4^a	5	-3	2
Y_{14}	Health, Welfare & Hospital	4	5	2	3	1
Y_{15}	Parks & Recreation Expend.	1^c	-5^c	2^c	-3^b	4^b
	Totals	41	60	39	40	45

[a] F test significant at .05 level

[b] F test significant at .01 level.

[c] F test significant at .001 level

D-1. The demographic environment of the community accounts for a significant amount of variation in per capita expenditure and revenue in Florida municipalities. This hypothesis must be accepted as shown by the data in Tables 5.3, 5.4, and 5.11. The five environmental variables were able to predict 50.2 percent of the total per capita operating expenditure, excluding capital outlay. When capital expenditures were included in the per capita totals, two demographic variables still accounted for 34.2 percent of the general operating expenditure totals. Five demographic variables predicted 54.8 percent of the per capita revenue in the 21 Florida cities.

a. The larger the population, the higher a city's per capita expenditure and revenue is expected to be. This hypothesis cannot be accepted as being valid in the 21 Florida case study cities. Tables 5.3, 5.4, and 5.11 show that insignificant amounts of revenue change are related to population differences.

b. The more rapid the growth of a city, the higher the per capita expenditure and revenue is expected to be. This hypothesis must be rejected because the direction of the prediction is wrong. It was expected that rapid population growth would be related to higher expenditures, but the data in Tables 5.3, 5.4, and 5.11 indicate that population growth is associated with lower expenditures and not higher expenditures. This same statement is also true for the revenue portion of the analysis. Population change accounts for 22.5 percent of the variation in per capita general operating expenditure (excluding capital outlay), 3.7 percent of the variation in the total general operating budget, and 3.6 percent of the variation in per capita total revenue.

c. The larger a city's land area, the higher that city's per capita expenditure and revenue is expected to be. This hypothesis must also be rejected. Land area is one of the poorer predictors of municipal policy. Only 0.5 percent of the variation in current expenditure is accounted for by differences in land area, 1.6 percent of the variation in total expenditure is predicted, and less than 0.2 percent of the variation in per capita revenue is accounted for by this variable.

d. The more densely populated a city, the higher the per capita expenditure and revenue is expected to be. Data presented in Tables 5.3, 5.4, and 5.11 also show that this hypothesis cannot be accepted. Density predicts 5.1 percent of the variation in current per capita expenditure, 0.9 percent of the variation in total per capita expenditure, and only 0.6 percent of the variation in the total per capita revenue totals.

e. The higher the age of a city's inhabitants, the higher the per capita expenditure and revenue is expected to be. This hypothesis is accepted. Median age of the population predicts 20.4 percent of the variation in current per capita expenditure, 30.6 percent of the variation in the total per capita expenditure, and 60.3 percent of the variation in the per capita revenue totals.

A substantial portion of municipal policy decisions that are carried out in the budgets in 21 Florida municipalities can be predicted on the basis of demographic information alone. This, in itself, is a significant finding. Even more startling is the finding that 1960 demographic data were excellent predictors of policy decisions in 1965. A portion of the model postulated for policy analysis must also be accepted on the basis of the above analysis.

CHAPTER VI

SOCIO-ECONOMIC VARIABLES AND MUNICIPAL POLICY

Measurable differences in the socio-economic environment, it was hypothesized, would account for a significant amount of variation in municipal policy decision in the Florida municipal system. This chapter undertakes to test this relationship by investigating the apparent linkage between indicators of the socio-economic environment and municipal policy. Policy, as before, has been operationalized as the per capita dollars committed for expenditure in the major program areas of municipal concern and the revenue "mix" that provides this economic support.

Variables

Originally 16 measures of various aspects of the socio-economic environment in the 21 municipalities were chosen for investigation. These variables are listed below.[1]

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[1] Most of these measures are easily found in published Census reports. A description of the methods used in arriving at the more complicated measures is given in Chapter II.

X_8 Percent Negro in 1960

X_9 Percent foreign born in 1960

X_{10} Percent living in the same house in 1955 and 1960

X_{11} Fertility ratio

X_{12} Median school year completed in 1960

X_{13} Percent of work force in white collar occupations in 1960

X_{14} Median family income in 1959

X_{15} One family unit structures as a percentage of all housing units in 1960

X_{16} Percent housing units occupied by owner in 1960

X_{17} Median gross rent per month in 1960

X_{18} Percent of families with incomes under \$3,000 in 1959

X_{19} Percent of families with incomes over \$10,000 in 1959

X_{20} Median home value in 1960

X_{21} Manufacturing ratio

X_{22} Urbanization score

X_{23} Social class score

Product moment correlations among all possible pairs of these independent variables were calculated, with the results shown in Table 6.1. The relatively high correlation coefficients in this table indicate that there is a high degree of intercorrelation among these variables. The most extreme aspects of the multicollinearity present were excluded by discarding several measures that were highly correlated with two or more other independent variables.

On inspection it can be seen that several variables in Table 6.1 seem to be indicators of similar underlying phenomena. Variable X_{12}, median income, is very closely linked to the other two direct income variables, X_{18}--percent low income--and variable X_{19}--percent high income. This relationship presents an r of -.550 and .808, respectively, indicating that cities with high median incomes tend to have fewer numbers of low income families and higher numbers of high income families. These three variables obviously measure the same thing: income. In order to avoid multicollinearity, variables X_{18} and X_{19} were deleted from further analysis.

Variable X_{11}, the fertility ratio, is also highly correlated with several other variables. High correlations are seen between fertility and precent white collar (-.828), between fertility and median home value (-.860), and between fertility and median rent (-.808). Families living in expensive housing and engaged in white collar occupations tended to have fewer children.

These relationships were at levels so high that all three variables seem to measure the same thing. The fertility ratio was consequently dropped from the future detailed analysis.

Variable X_{15}, percent one unit structures was also deleted in this step of the analysis. It presented high correlations with percent foreign born (-.817), with median home value (-.780), with percent owner-occupied housing (.832), and with urbanization (-.866). Some variables in this group of independent variables also showed high intercorrelation with Variable X_{17}, median rent. Median rent correlated very highly with percent Negro (-.805), with percent foreign born (.743), with median home value (.780), and with the fertility ratio (-.808). Both median rent and percent living in one unit structures were dropped from further analysis procedures in order to lessen the amount of multicollinearity present.

One additional variable was deleted for different reasons. Variable X_{10}, percent in the same home, 1955-1960, was thought to be a measure of intracommunity-upward mobility. It correlated with demographic variables, however, at such a high level that it was dropped from further analysis as a socio-economic variable.

With the deletion of these six variables, most of the highest correlation coefficients disappear. Some rather high correlations do remain, however, and these are particularly associated with Variables X_{23}, social class, and X_{20}, median value. The problem of multicollinearity could have been lessened further by deleting these variables, but a decision was made to keep these variables in the analysis. The variable measuring median home value was left because it is the only variable that directly measures any part of property values which are important in the matter of property taxation. The social class measure was kept because, even after controls were made for intercorrelation, it was still one of the single best predictors of municipal policy.

TABLE 6 1

CORRELATION MATRIX OF INDEPENDENT SOCIO-ECONOMIC VARIABLES

Variables	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}	X_{22}	X_{23}
X_8 % Negro	1.000	-591	281	653	434	-642	-462	149	-268	-805	482	-409	-555	-208	-109	-477
X_9 % Foreign Born		1.000	-381	-758	-040	426	-015	-817	-458	743	161	230	818	-255	644	219
X_{10} % Same House, 55 & 60			1.00	400	-368	-418	-001	427	394	-299	-127	-230	-533	394	-481	-459
X_{11} Fertility Ratio				1.000	-406	-828	-374	687	355	-808	122	-628	-860	340	-695	-689
X_{12} Median Education					1.000	644	542	109	242	407	-523	509	246	-129	137	807
X_{13} % White Collar						1.000	649	-346	091	712	-369	835	748	-334	450	909
X_{14} Median Income							1.000	154	380	526	-880	808	336	235	052	648
X_{15} % One unit structures								1.000	832	-478	-422	-240	-780	550	-866	-219
X_{16} % Owner occupied									1.000	-032	-626	005	-127	213	013	-192
X_{17} Median rent										1.000	-414	586	780	-073	462	534
X_{18} % Low income											1.000	470	-034	-557	193	-388
X_{19} % High income												1.000	651	-299	331	833
X_{20} Median home value													1.000	-450	714	604
X_{21} Manufacturing Ratio														1.000	-505	-411
X_{22} Urban score															1.000	382
X_{23} Social class score																1.000

Hypotheses

In Chapter two it was suggested that the socio-economic environment of municipalities accounted for a major portion of the variation in municipal policy. In this Chapter, socio-economic variables are operationalized as independent variables with municipal policy as the dependent variables. The particular hypotheses to be tested are listed below.

S-1. The socio-economic environment of the community accounts for a significant amount of variation in per capita expenditure and revenue in Florida municipalities.

a. The higher the proportion of Negroes in a community, the lower the per capita expenditure and revenue of that community is expected to be.

b. The higher the proportion of foreign born in a city, the lower the per capita expenditure and revenue is expected to be.

c. The more mobile the population of a city, the higher the per capita expenditure and revenue is expected to be.

d. The higher the educational level of a city's inhabitants, the higher the per capita expenditure and revenue is expected to be.

e. The higher the income level of a city's inhabitants, the higher the per capita expenditure and revenue is expected to be.

f. The higher the value of the housing in a city, the higher the per capita expenditure and revenue is expected to be

g. The higher the percentage of one-unit structures and owner-occupied housing in a city, the higher the per capita expenditure and revenue is expected to be.

h. The higher the percentage of white collar workers in a city, the higher the per capita expenditure and revenue is expected to be.

i. The higher the manufacturing ratio in a city, the lower the per capita expenditure and revenue is expected to be

j. The higher the fertility ratio in a city, the lower the per capita expenditure and revenue is expected to be

k. The higher the urbanization score in a city, the higher the per capita expenditure and revenue is expected to be

l. The higher the social class score in a city, the higher the per capita expenditure and revenue is expected to be

Analysis

The simple correlation coefficients between socio-economic variables and municipal policy output proved to be quite interesting. As seen in Table 6.2, several associations are quite high.

TABLE 6 2

SIMPLE CORRELATIONS BETWEEN OUTPUT MEASURES AND SOCIO-ECONOMIC VARIABLES

Dependent Variables (Per Capita)	Independent Variables X_8	X_9	X_{12}	X_{13}	X_{14}	X_{16}	X_{20}	X_{21}	X_{22}	X_{23}
Y_1 General Rev.	-427	661	191	654	215	-349	788	-493	515	499
Y_2 Total Tax. Rev.	-407	780	084	477	078	-494	829	-485	578	347
Y_3 Prop Tax Rev.	-424	856	055	493	030	-576	865	-482	682	348
Y_4 Gross Recpts. Tax	-086	252	-158	043	227	-031	298	027	116	-050
Y_5 Intergov. Rev.	-427	661	191	654	215	-349	788	-493	515	499
Y_6 Charges & Misc Rev	-075	-045	208	440	227	075	150	-208	058	352
Y_7 Total Gen. Oper. Ex.	-253	396	056	520	105	-200	431	-298	375	318
Y_8 Total Gen Oper. Ex (Exc Cap. Outlay)	-053	463	013	534	092	-576	617	-506	661	338
Y_9 Police Exp.	089	521	-170	125	-123	-682	495	-367	647	040
Y_{10} Fire Exp	-289	387	022	298	150	-282	269	014	475	128
Y_{11} Highway Exp.	-030	-206	-103	-005	-008	348	-181	112	-412	-076
Y_{12} Sewerage Exp	-310	061	263	245	006	220	002	-071	-066	343
Y_{13} Other San. Exp.	-226	482	-001	243	005	-333	496	-284	390	124
Y_{14} Health, Wel. & Hos.	100	-062	063	195	-056	-038	-041	-049	082	-077
Y_{15} Parks & Rec. Exp.	-402	698	-052	421	051	-418	689	-273	455	210

Stepwise regression procedures again were used on these data, and, as before, variable Y_g, general operating expenditure excluding capital outlay, was used as the dependent control variable. The results of the analysis of the control variable is given in Table 6.3. The independent variables are listed in the reverse order in which they were deleted by the stepwise procedure. The coefficient of multiple determination (R^2) shown is for the corresponding step in the stepwise procedure, and the data in other columns are for the first step in the procedure.

When total operating expenditures excluding capital outlay are used as the dependent variable, the ten socio-economic variables predict 80.7 percent of the per capita expenditure level. The first four of these variables are obviously the more important, because they predict 70.6 percent of the expenditure levels which is significant at the .001 level of probability. The marked contrast between the importance of each variable is shown by the standardized regression coefficients. The simple correlations also show that four variables (percent home owners occupied, the manufacturing ratio, medium home value, and urbanization) all seem to be highly associated with the dependent variable, but when controls for intercorrelation with other independent variables were applied their individual importance proved to be quite insignificant. The variables that were best able to predict municipal policy in this case were percent white collar, percent Negro, social class, and percent foreign born. These data indicate that large numbers of white collar

TABLE 6.3

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA TOTAL GENERAL OPERATING EXPENDITURES, EXCLUDING CAPITAL OUTLAY, Y_8

Indep. Variable	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} White collar	.285[a]	.534	5.702	2.0334
X_8 Percent Negro	.428[a]	-.053	2.301	1.119
X_{23} Social class	.685[c]	.338	-3.786	-1.174
X_9 Percent Foreign Born	.796[c]	.463	2.049	.551
X_{12} Median Education	.805[c]	.013	5.881	.116
X_{14} Median income	.805[c]	.092	-.0035	-.116
X_{16} Percent homes owner occupied	.806[c]	-.576	.110	.057
X_{21} Mfg. ratio	.807[b]	-.508	.228	.085
X_{20} Median home value	.807[b]	.617	.00032	.064
X_{22} Urban score	.807[b]	.661	-.131	-.047
		Intercept -50.432		

[a] F test significant at .05 level.

[b] F test significant at .01 level.

[c] F test significant at .001 level.

workers, Negroes, and foreign born will raise the general expenditure level in the municipality, while a high social class score will lower the expenditure level.

When capital expenditures are added to the current operating expenditure level, socio-economic variables become less reliable for predictive purposes. Table 6.4 shows the results of this analysis. Large numbers of white collar workers, Negroes, and foreign born are still the most important variables for predicting high expenditure levels. This relationship is significant at the .05 level. Almost at the level of foreign born in importance is the variable representing home ownership. The power of the social class variable in predicting output is somewhat lower than in the previous case, but it still has a respectable magnitude. The direction of the relationship between expenditure level and social class may be more important than the magnitude of the relationship, because high social class--high income concentrations of residents--is associated with smaller total expenditures both in this table and in Table 6.3. Despite this interesting linkage, no statistically significant relationships are shown.

Per capita expenditures for police service also are clearly associated with socio-economic variables, as can be seen by the coefficient of multiple determination of .619. The addition of the last four variables in the regression equation did little, however, to increase the predictive power of the socio-economic environment, as can be seen

TABLE 6 4

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA GENERAL OPERATING EXPENDITURE, Y_7

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	.272[a]	.521	6.771	2.129
X_8 Percent Negro	.283[a]	-.253	2.142	.918
X_{23} Social class	.465[a]	.321	-1.936	-.529
X_9 Percent foreign born	.482[a]	.396	2.769	.656
X_{12} Median education	.482	.058	-7.395	-.231
X_{14} Median income	.512	.103	-.019	-.554
X_{16} Percent owner occupied	.589	.201	1.421	.650
X_{21} Mfg. ratio	.606	-.313	.552	.182
X_{20} Median home value	.618	.432	-.0021	-.369
X_{22} Urban score	.622	.375	.608	.194
		Intercept -59.963		

[a] F test significant at the .05 level.

in Table 6-5. Large numbers of foreign born residents and Negroes are again the most important predictive variables in this case, but percent white collar declines greatly in relative importance for predicting policy output. Social class and home ownership are also somewhat important, and high values on these variables are associated with lower per capita expenditures. Although the linkages shown are somewhat different from those previously seen, several multiple relationships are significant at the .05 level.

TABLE 6.5

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA POLICE EXPENDITURE, Y_9

Indep. Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	.020	.111	.182	.307
X_8 Percent Negro	.070	.082	.336	.848
X_{23} Social class	.139	.559	-.344	-.508
X_9 Percent foreign born	.542[a]	.519	.802	1.028
X_{12} Median education	.555[a]	-.154	2.492	.442
X_{14} Median income	.584[a]	-.098	.003	-.410
X_{16} Percent owner occupied	.610[a]	-.670	-.203	-.501
X_{21} Mfg. ratio	.610	-.365	.039	.069
X_{20} Median home value	.610	.450	-.00004	-.038
X_{22} Urban score	.619	.647	-.164	-.283
	Intercept	-5.866		

[a] F test significant at the .05 level

The dependent variable used in Table 6.6 is per capita expenditures for the fire control program. Although the socio-economic variables account for 56.2 percent of the expenditures for this functional program, no statistically significant relationships appear. Home value is the most important variable in predicting program level in this case. One might expect a relationship between these variables but not the direction, which is negative. This might indicate that more expensive houses, are usually constructed from fire resistant material, hence the level of fire protection needed is lower than that required for concentrations of low cost frame homes. Percent white collar, percent foreign born, and social class are the next best predictors of expenditure levels for fire control in Florida municipalities.

Per capita sewerage expenditure becomes the dependent variable in Table 6.7, and 44.1 percent of the expenditure level for this program is predicted by socio-economic variables. Social class, home value, educational level, and percent Negro are the four most powerful predictors of service levels in this area. The relationships shown in this table are quite different than those shown earlier, and they are less significant. The percentage of the population that is foreign born is, relatively, the poorest predictor of sewerage expenditure levels, while it was among the best single predictors in the previous cases. Also, social class shows a positive relationship; large numbers of high social class residents lead to high expenditure levels. This is opposite from the case found previously

TABLE 6.6

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA FIRE CONTROL EXPENDITURE, Y_{10}

Indep Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	.090	.330	426	1.100
X_8 Percent Negro	.093	-.238	-.0189	-.665
X_{23} Social class	213	.129	-.367	-.824
X_9 Percent foreign born	.243	.380	.502	977
X_{12} Median education	.264	205	324	083
X_{14} Median income	.291	.165	003	.719
X_{16} Percent owner occup	.313	-.264	-.134	-.503
X_{21} Mig ratio	.335	.021	-.061	-.165
X_{20} Median home value	.550	.263	-.0012	-1.730
X_{22} Urban score	.562	.462	.124	.325

Intercept 13.399

TABLE 6.7

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA SEWERAGE EXPENDITURE, Y_{12}

Indep. Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	.060	.244	-.296	-.401
X_8 Percent Negro	097	-.305	-.377	-.696
X_{23} Social class	.181	.309	1.331	1.596
X_9 Percent foreign born	.186	.050	118	.120
X_{12} Median education	213	.269	-5.530	-.746
X_{14} Median income	.300	.076	-.003	-.389
X_{16} Percent owner occupied	331	.227	.191	.376
X_{21} Mfg. ratio	.338	-.069	-.106	-.151
X_{20} Median home value	.422	-.004	-.001	-.983
X_{22} Urban score	441	-.078	.308	424

Intercept 14.124

Social class is also the most important single variable for predicting other sanitation expenditures in Florida municipalities, but, as in the previous table, no statistically significant relationship is seen. The direction of the relationship is again negative in this case, in contrast to the positive relationship shown for sewerage expenditures. Table 6.8 indicates that social class is at least twice as powerful a predictor of other sanitation program levels as the second most powerful predictive variable, percent employed in white collar occupations. The total socio-economic group of variables accounted for a lower percentage of the expenditures--37 percent--than was found for previous dependent variables.

Analysis of the remaining amenities-related expenditure variable, per capita parks and recreation expenditure, is shown in Table 6.9. About two-thirds of the program level in this functional area is accounted for by the listed socio-economic variables. After intercorrelation was controlled, home value was the most powerful predictor of the expenditure level in this area. Both percent white collar and income level are also important as predictors, but the direction of the relationship is different in each case, i.e., percent white collar is positively associated with expenditure, but income level is associated negatively with expenditure. This would suggest an apparent logical contradiction. High home values and low incomes are both associated with high expenditure level for the program under consideration. In order to

TABLE 6 8

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA OTHER SANITATION EXPENDITURE . Y_{13}

Indep Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	061	247	0278	536
X_8 Percent Negro	.070	- 232	-.115	- 302
X_{23} Social class	123	122	-.697	-1 168
X_9 Percent foreign born	258	486	-.041	- 059
X_{12} Median education	267	- 005	2 055	394
X_{14} Median income	.270	020	.0022	.393
X_{16} Percent owner occup	276	- 329	- 0519	- 145
X_{21} Mfg ratio	.352	- 271	- 263	- 533
X_{20} Median home value	370	506	00047	.506
X_{22} Urban score	.370	.396	0025	005

Intercept 26.584

TABLE 6 9

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA PARKS AND RECREATION EXPENDITURE , Y_{15}

Indep Variables	Coefficient of multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	159	398	715	744
X_8 Percent Negro	191	- 394	328	465
X_{23} Social class	320	196	- 140	- 126
X_9 Percent foreign born	.542	700	217	170
X_{12} Median education	543	- 062	- 085	- 008
X_{14} Median income	.571	-.062	-.0076	- 734
X_{16} Percent owner occup	572	.427	.057	086
X_{21} Mfg. ratio	.576	272	.468	512
X_{20} Median home value	.660	.688	.0018	1 046
X_{22} Urban score	668	459	-.263	- 278
		Intercept	-7 282	

[a] F test significant at .05 level.

understand this, one must remember that Florida resort communities tend to spend more for parks and recreation than do residentially-oriented communities Resort communities contain more expensive homes, higher concentrations of retired residents, and people with relatively low current incomes. In view of the fact that age alone accounts for 55.4 percent of the expenditure level in this area, this tangled relationship of expensive homes, low current income, higher median age, large numbers of white collar employees, and high expenditures for parks and recreation makes sense.

The relationship between per capita highway expenditures and socio-economic variables presents the interesting paradox that is seen in Table 6.10. Analysis of the coefficient of determination for the ten variables shows that a small amount of the highway expenditure variation, 36.7 percent, is related to the socio-economic variables. The table also indicates that a very high amount of intercorrelation exists in this group of variables. The standardized regression coefficients indicate that percent white collar is the most important variable when the effects of the other independent variables are controlled. This variable, however, is so highly intercorrelated with other variables in the equation that it shows no association (R^2 of .000) with the highway program level. Hence, although percent white collar is the single most important variable, it can be left out of the equation without losing any predictive value because the other variables are so closely related to it. Income, the second most important independent variable, is negatively related to the program level, while concentrations of owner occupied homes and Negroes lead to higher per capita expenditures. Apparently lower class lower-income residential communities tend to experience higher per capita costs for their highway programs than do other communities, although not at a statistically significant level.

TABLE 6.10

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA HIGHWAY EXPENDITURE – Y_{11}

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	.000	.018	.765	1.241
X_8 Percent Negro	.001	-.027	.249	.552
X_{23} Social class	.031	-.055	-.140	-.197
X_9 Percent foreign born	.159	-.204	-.135	-.165
X_{12} Median education	.190	-.090	-1.817	-.294
X_{14} Median income	.235	-.004	-.0045	-.678
X_{16} Percent owner occup.	.335	.323	.253	.597
X_{21} Mfg. ratio	.336	.087	.155	.264
X_{20} Median home value	.354	-.163	.0005	.453
X_{22} Urban score	.367	-.392	-.140	-.231
		Intercept 9.756		

As was indicated earlier, expenditures for health, welfare and hospitals in Florida are usually assumed by the government, but some municipalities do enter this field because of historical circumstances. Data for those cities that do enter into these programs were collected and the results shown in Table 6.11. All ten socio-economic variables account for 67.3 percent of the program level, and eight variables account for 66.8 percent of the variation which is significant at the .05 level. Several variables are relatively important in explaining this situation, as seen by the high values of several of the standardized regression coefficients. Cities with large numbers of working adults (high percentage white collar employed and high manufacturing ratio) and lower socio-economic class residents (high percent Negro, high percent foreign born, low social class score, and low income level) tend to be cities with the highest expenditure levels for health, welfare and hospital programs. This, of course, is not surprising, as cities with large concentrations of these types of people must pay for the social services that they require. Expenditure levels for this category are by necessity associated with local socio-economic factors. It is not insignificant that these services are increasingly becoming county, state, and national concerns in order to spread the high cost over larger groups of people who also may be more efficient

TABLE 6.11

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA HEALTH, WELFARE AND HOSPITAL EXPENDITURE, Y_{14}

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	.034	.184	3.776	2.918
X_8 Percent Negro	.126	.114	1.993	2.100
X_{23} Social class	.254	.069	-1.010	-.678
X_9 Percent foreign born	.283	-.074	1.582	.922
X_{12} Median education	.247	.057	4.328	.333
X_{14} Median income	.388	-.058	-.016	-1.147
X_{16} Percent owner occup.	.476	-.037	.596	.669
X_{21} Mfg. ratio	.668[a]	-.043	1.288	1.047
X_{20} Median home value	.670	-.052	-.00046	-.199
X_{22} Urban score	.673	.081	-.228	-.179
		Intercept	-178.193	

[a] F test significant at .05 level.

It was hypothesized that the important revenue categories could also be predicted by the socio-economic environment. In order to test this general hypothesis, the step regression procedure was used on the ten socio-economic variables, with each revenue category in turn serving as a dependent variable.

Per capita general revenue is used as the dependent variable in the regression analysis data shown in Table 6.12. The ten socio-economic variables show an R^2 of .737, indicating that 73.7 percent of the total general revenue is accounted for by the socio-economic variables. This is significant at the .05 level. Four of these variables account for 65.7 percent of the revenue total and this is significant at the .01 level. The standardized regression coefficients indicate, after controls for intercorrelation are made, that percent white collar, social class, percent foreign born, and percent Negro are the four most important prediction variables in that listed order. Three of these variables, percent white collar, percent Negro and percent foreign born are all strongly associated with higher revenue levels, while high social class scores are strongly associated with low per capita revenue totals.

When the category of per capita total taxes is used as the dependent variable, a somewhat different pattern emerges. This is shown in summary form in Table 6.13. The interaction of the ten socio-economic variables and the tax variable presents an R^2 of .820, showing that 82 percent of total taxes can be predicted by the socio-economic environment which is significant at the .05 level. Social class is the single most powerful predictor and has a negative relationship with revenue as was the case in Table 6.12. Percent foreign born is the next most important variable, with high concentrations of foreign born residents associated with higher

TABLE 6.12

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA GENERAL REVENUE, Y_1

Indep Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	.428[b]	.654	3.456	.935
X_8 Percent Negro	.428[b]	-.429	1.335	.493
X_{23} Social class	.485[b]	.500	-3.036	-.714
X_9 Percent foreign born	.657[b]	.663	3.251	.663
X_{12} Median education	.658[b]	.191	9.587	.258
X_{14} Median income	.659[a]	.215	.0047	.118
X_{16} Percent owner occup.	.676[a]	-.350	.186	.073
X_{21} Mfg. ratio	.709[a]	-.494	-1.013	-.288
X_{20} Median home value	.721[a]	.790	.0022	.133
X_{22} Urban score	.737[a]	.517	-1.389	-.382
		Intercept	2.625	

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[a] F test significant at .05 level

[b] F test significant at .01 level

TABLE 6.13

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA TOTAL TAXES, Y_2

Indep Variables	Coefficients of Multiple Determination R^2	Simple Correlation r	Regression Coefficients b	Standardized Regression Coefficients B
X_{13} Percent white collar	.227^a	.476	-.315	-.102
X_8 Percent Negro	.245	-.410	-.121	-.053
X_{23} Social class	.274	.348	-2.632	-.741
X_9 Percent foreign born	.670^c	.780	2.216	.541
X_{12} Median education	.670^b	.085	13.847	.447
X_{14} Median income	.671^b	.080	.016	.481
X_{16} Percent owner occup.	.675^a	-.490	-.801	-.377
X_{21} Mfg. ratio	.768^b	-.482	-1.513	-.515
X_{20} Median home value	.796^a	.828	.0029	.525
X_{22} Urban score	.820^a	.576	-1.430	-.471

Intercept 116.112

^{a}F test significant at .05 level

^{b}F test significant at .01 level

^{c}F test significant at .001 level

per capita taxes. Percent white collar and percent Negro were other best predictors of total revenue levels but they were among the poorest predictors of per capita tax levels. Instead, home value and the manufacturing ratio become the third and fourth most powerful variables in that order. High median home value is associated with high tax levels and high concentrations of manufacturing establishments and blue collar workers are associated with low per capita taxes

The largest portion of total tax revenue is generated by property taxes, and this becomes the dependent variable in Table 6.14. The ten socio-economic variables account for 86.5 percent of the property tax level, and, as expected, the relative importance of the individual relationships are similar to those found in Table 6.13 when total taxes were used as the dependent variable. Percent white collar and percent Negro continue to be the poorest indicators, while high concentrations of foreign born residents, high median home value, and low social class are still associated with high property tax levels and high total tax levels

The remainder of the taxes that are administered on the local level is contained in the per capita gross receipts tax category and treated as the dependent variable in Table 6.15 The socio-economic variables account for significant portions of this tax category, with an R^2 of .415 High social class scores still predict lower tax yields in this case, as was found also for the previous revenue categories. The variable of

TABLE 6.14

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA TOTAL PROPERTY TAX, Y_3

Indep Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	.243[a]	.493	-.220	-.086
X_8 Percent Negro	.269	-.426	-.081	-.043
X_{23} Social class	.305	.349	-.942	-.320
X_9 Percent foreign born	.802[c]	.858	1.768	.552
X_{12} Median education	.802[c]	.056	5.651	.220
X_{14} Median income	.802[c]	.031	.005	.192
X_{16} Percent owner occup.	.812[c]	-.575	.500	.284
X_{21} Mfg. ratio	.843[c]	-.481	-.647	-.266
X_{20} Median home value	.860[b]	.864	.002	.459
X_{22} Urban score	.865[b]	.661	-.544	-.216
	Intercept 49.202			

[a] F test significant at the .05 level

[b] F test significant at the .01 level.

[c] F test significant at the .001 level.

TABLE 6.15

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA TOTAL GROSS RECEIPTS TAX, Y_4

Indep Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	002	.043	-.300	-204
X_9 Percent Negro	007	-.085	350	325
X_{23} Social class	.046	-.048	-1,808	-1 069
X_9 Percent foreign born	088	260	.627	321
X_{12} Median education	093	-157	4.506	305
X_{14} Median income	298	.222	0132	833
X_{16} Percent owner occup	.306	-.039	157	155
X_{21} Mfg. ratio	370	018	-524	375
X_{20} Median home value	410	303	0019	722
X_{22} Urban score	415	126	-309	-214
		Intercept 16 052		

Income also became more important for the first time. High income apparently leads to high consumption and is taxed by the sales-oriented gross receipts tax High income values are the third most important variable and are associated with high tax levels. The fourth most important variable is the manufacturing ratio. A not unsurprising negative relationship is shown here. Manufacturing cities do not have the large retail-establishment base that would be expected to produce a high tax volume from this source.

A pattern much different from the tax-related categories is seen in Table 6.16 where charges and miscellaneous revenue become the dependent variable. The socio-economic variables account for slightly over half of the revenue variation in this case. Percent white collar is by far the most important determinate of revenue in this table and the only relationship that is significant at the .05 level. An increase of one percent in white collar workers is associated with an increase of $3.83 in municipal revenue. The percent Negroes is also important, although not at a significant level. Cities with large numbers of Negroes rely heavily on this revenue source. Somewhat closely associated is the strong negative relationship between income and the revenue category and also that between social class and charges and miscellaneous revenue totals. In addition, the fact of whether or not homes are owner-occupied seems to be relevant. A high concentration of owner-occupied housing leads to higher per capita revenue levels from this source. The greatest difference between this revenue category and tax-related categories is that there is almost no association between charges and miscellaneous revenue totals and home value, while home value rated as one of the most important variables in the equation when trying to

TABLE 6.16

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA CHARGES AND MISCELLANEOUS REVENUE, Y_6

Indep Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	192[a]	.439	3.828	2.088
X_8 Percent Negro	261	-.080	1.432	1.065
X_{23} Social class	.309	.350	-1.096	-.520
X_9 Percent foreign born	.367	-.043	.452	.186
X_{12} Median education	.367	.208	-1.350	-.073
X_{14} Median income	.388	.223	-.0118	-.597
X_{16} Percent owner occup.	.493	.080	.922	.731
X_{21} Mfg. ratio	.502	-.205	.417	.239
X_{20} Median home value	.502	.147	.00002	.006
X_{22} Urban score	.502	.055	.0175	.010
		Intercept	-102.959	

[a] F test significant at .05 level.

predict property taxes. The value of the service, not property value, seems to be the criterion for the charges

Although the level of intergovernmental revenue is insignificant, it is interesting to note its association with the socio-economic environment. The reasons for this are not very clear, however, as can be seen in Table 6.17. Social class, the most important variable, shows a positive association with per capita intergovernmental revenue, which is unexpected in view of the finding that the social class relationship had been negative with the other revenue categories. Low median home value and a low educational level are also predictors of high intergovernmental revenue. Due to the token amounts received by most cities from this revenue source in Florida, some of the relationships shown could well be spurious, and it is possible that the cities described by the above criteria simply are selling services to other governmental jurisdictions because of local circumstances.

TABLE 6.17

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SOCIO-ECONOMIC VARIABLES AND PER CAPITA INTERGOVERNMENTAL REVENUE, Y_5

Indep Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent white collar	.146	382	- 220	- 721
X_8 Percent Negro	.189	-.404	- 106	-.474
X_{23} Social class	203	.366	716	2 040
X_9 Percent foreign born	.209	272	286	707
X_{12} Median education	419	095	-3 591	-1 172
X_{14} Median income	481	.466	0016	486
X_{16} Percent owner occup.	482	087	- 039	-.185
X_{21} Mfg. ratio	.536	129	.049	168
X_{20} Median home value	661	264	- 0007	-1 281
X_{22} Urban score	665	.145	.060	.200

Intercept 7.071

Summary

A rough idea of the relative importance of each variable in the regression equation that seeks to determine the predictive value of socio-economic variables in determining municipal policy can be seen in Table 6.15. In this table, the rank of the independent variable and the level of its significance is listed according to its relative predictive value for each dependent variable. The direction of the relationship, negative or positive, is also indicated.

The importance of large numbers of white collar residents, variable X_{13}, is quite apparent. White collar residents seem to demand high expenditure levels in general and particularly in the functional areas of fire services, refuse collection, health, etc., parks and recreation, and highway programs. The importance of white collar residents is somewhat lower for police programs and the expenditure level of the sewerage system. White collar workers also are willing to pay for high service levels, as indicated by the general revenue ranking. High concentrations of white collar residents are, however, negatively--although weakly so--associated with all types of tax variables. White collar workers might be willing to pay for high service levels, but they appear to prefer charges for services rendered rather than paying taxes in any form.

After controls for intercorrelation were made, social class, variable X_{23}, was the second best overall predictor of municipal policy.

TABLE 6.18

PREDICTIVE POWER IN RANK ORDER OF SOCIO-ECONOMIC VARIABLES FOR EACH DEPENDENT VARIABLE

Dependent Variables (Per Capita)	Independent Variables									
	X_8	X_9	X_{12}	X_{13}	X_{14}	X_{16}	X_{20}	X_{21}	X_{22}	X_{23}
Y_1 General Revenue	4^b	3^b	7^b	1^b	8^a	9^a	10^a	-6^a	-5^a	-2^b
Y_2 Total Taxes	-10	2^c	7^b	-9^a	5^b	-8^a	3^a	-4^b	-6^a	-1
Y_3 Property Tax	-10	1^c	6^c	-9^a	8^c	4^c	2^b	-5^c	-7^b	-3
Y_4 Gross Receipts Tax	5	6	7	-9	7	10	3	-4	-8	-1
Y_5 Intergov Revenue	-7	5	-3	-4	6	-9	-2	10	8	1
Y_6 Charges & Misc. Rev.	2	7	-8	1^a	-4	3	10	6	9	-5
Y_7 Total Operating Exp	2	3	-8	1^a	-5	4	-7	10	9	-6^a
Y_8 Total Operating Exp (Excluding Cap. Out.)	3^a	4^c	5^c	1^a	-6^c	9^c	8^b	7^b	-10^b	-2^c
Y_9 Police Expenditure	2	1^a	5^a	7	6^a	-4^a	-10	9	-8	-3
Y_{10} Fire Expenditure	-6	3	10	2	5	-7	-1	-9	8	-4
Y_{11} Highway Expenditure	4	-10	-6	1	-2	3	5	7	-8	-9
Y_{12} Sewerage Expenditure	-4	10	-3	-6	-7	8	-2	-9	5	1
Y_{13} Other Sanitation Ex.	-7	-9	5	2	6	-8	4	-3	10	-1
Y_{14} Health, Welfare & Hospital Expend.	2	5	8	1	-3	7	-9	4^a	-10	-6
Y_{15} Parks & Rec. Expend.	5	7^a	-10^a	2	-3^a	9	1	4	-6	-8
Totals	72	75	97	56	75	101	76	96	114	61

^{a}F test significant at the .05 level.

^{b}F test significant at the .01 level.

^{c}F test significant at the .001 level.

High social class scores were associated, in general, with both lower program expenditure levels and low revenue levels. Two exceptions to this trend can be noted. High social class scores seem to be highly associated with high expenditure levels for sewerage system expenditure, and high social class scores are associated with the dubious revenue category of intergovernmental revenue.

Percent Negro in the city population is associated quite strongly with several revenue and expenditure categories. High Negro concentrations lead one to expect higher expenditure levels in general and in particular the functional areas of police and health-associated activities. A somewhat weaker positive association is seen between percent Negro and two other variables: highway expenditure and parks and recreation expenditure. High percent Negro is also weakly associated with low expenditures for fire programs, sewerage, and other sanitation programs. Also, the association between a high level of Negro residents and revenue categories is not generally strong, except for the positive relationship between percent Negro and charges and miscellaneous revenue. High percent Negro levels in the community lead to higher expenditures, but more stress is placed on service fees to support these expenditures than on wealth-related variables.

Percent foreign born, variable X_9, is associated with higher general expenditures and revenue. A particularly strong association is seen between high concentrations of foreign born and police and fire expenditures.

A lower association level between percent foreign born and the other areas of expenditure is seen. Other things being equal, foreign born apparently prefer property taxes to other forms of revenue collection. The association between percent foreign born and property tax is much higher than the association between percent foreign born and the nonproperty tax-related gross receipts tax category and the remaining major revenue category of charges and miscellaneous revenue.

Median income, variable X_{14}, presents an interesting case. This variable shows medium associations with almost all of the revenue and expenditure categories. In general, high median income is nominally associated with low expenditure levels and high revenue levels. This is particularly true for the expenditure categories of highways, parks and recreation, and health, welfare and hospital expenditure. High median income is also moderately associated with high police and fire expenditure, high sanitation expenditure, and low sewerage expenditure. Moderately higher revenue levels can be expected in high income cities, but a low level of charges and miscellaneous revenue is seen for these cities.

The variable of median home value, variable X_{20}, is not generally a reliable predictor of significant portions of general expenditure of revenue. Home value, however, is closely associated with expenditure in several functional areas. High median home value will predict low fire control and sewerage expenditure, and high parks and recreation expenditure. On the revenue side of the budget, high median home value is closely associated with higher per capita taxes of all types, but not charges and miscellaneous revenue levels.

Four of the ten socio-economic variables added little to the overall explanation of municipal policy. Median education (variable X_{12}), percent homes owner-occupied (variable X_{16}), the manufacturing ratio (variable X_{21}), and the urbanization score (variable X_{22}) added little to the predictive value of the regression equations. These variables apparently do not need to be taken into account for predicting public policy in the twenty-one Florida municipalities under study here. They make little independent contribution to the understanding of policy output and are intercorrelated with the other six more basic socio-economic variables that are the most important in explaining policy decisions.

S-1. The socio-economic environment of the community accounts for a significant amount of variation in per capita expenditure and revenue in Florida municipalities. This hypothesis must be accepted as shown in Tables 6.3, 6.4, and 6.12. The ten socio-economic variables could be used to predict 80.7 percent of the variation in the total per capita operating expenditures. This is significant at the .01 level. When capital expenditures were added to the general operating expenditures, four variables still accounted for 49.2 percent of the total variation which is significant at the .05 level of probability. We also find that the ten socio-economic variables predict 73.7 percent of the per capita revenue totals in the 21 communities. This is also acceptable at the

.05 level.

a. The higher the proportion of Negroes in a community, the lower the per capita expenditure and revenue is expected to be. This hypothesis may be accepted for the expenditure side of the hypothesis, but not for revenue. Percent Negro in the community accounts for 14.3 percent of the per capita operating expenditure excluding capital outlay, but is unimportant as a predictor of per capita revenue figures.

b. The higher the proportion of foreign born in a city, the lower the per capita expenditure and revenue is expected to be. This hypothesis cannot be accepted because the direction that was expected is opposite to the direction that was found after an analysis of the data.

c. The more mobile the population of a city, the higher the per capita expenditure and revenue is expected to be. This hypothesis cannot be accepted as there are no data supporting this expected relationship.

d. The higher the educational level of a city's inhabitants, the higher the per capita expenditure and revenue is expected to be. Median education predicts only negligible amounts of the variation in the total expenditure and revenue categories, hence it is not possible to accept the hypothesis as valid.

e. The higher the income level of a city's inhabitants, the higher the per capita expenditure and revenue is expected to be. No substantial amount of variation is singly caused by variation in the income level, hence this hypothesis cannot be accepted.

f. The higher the value of the housing in a city, the higher the per capita expenditure and revenue is expected to be. The data do not support this hypothesis and it cannot be accepted.

g. The higher the percentage of one-unit structures and owner-occupied housing in a city, the higher the per capita expenditure and revenue is expected to be. As was the case with other hypotheses that expect relationships between physical characteristics of housing and policy, data in this study do not present a strong enough relationship to allow the hypothesis to be accepted.

h. The higher the percentage of white collar workers in a city, the higher the per capita expenditure and revenue is expected to be. This relationship held true and this hypothesis may be accepted. Tables 6.3, 6.4, and 6.12 show that 27.2 percent of the total operating expenditure, 28.5 percent of the operating expenditure, (excluding capital outlay), and 42.8 percent of the total revenue are all accounted for by the variation of the percentage white collar in the community.

i. The higher the manufacturing ratio in a city, the lower the per capita expenditure and revenue is expected to be. There is not a strong enough relationship shown in the data in this chapter to allow this hypothesis to be accepted.

j. The higher the fertility ratio in a city, the higher the per capita expenditure and revenue is expected to be. Earlier analysis showed that this hypothesis could not be accepted.

k. The higher the urbanization score in a city, the higher the per capita expenditure and revenue is expected to be. This hypothesis did not show a strong enough relationship to be accepted as valid.

l. The higher the social class score in a city, the higher the per capita expenditure and revenue is expected to be. This hypothesis cannot be accepted because of the fact that the direction of the relationship is opposite to that expected. The social class score is associated with lower expenditure and revenue, not higher totals.

A substantial portion of municipal policy decisions, over half in most cases, may be predicted by the variables chosen to represent the socio-economic environment. In many cases the level of prediction by the regression equation is not high enough that the multiple relationships shown are statistically significant, but a substantial portion of the per capita variation seems to be related to the ten variables under study in this chapter. This appears to be an important finding.

CHAPTER VII

POLITICAL VARIABLES AND MUNICIPAL POLICY

This chapter considers the relationship between municipal policy output and the political environment. It was hypothesized that measurable differences in the municipal political system account for a significant portion of the variation in policy output in the Florida municipal system. Policy is operationalized as the per capita dollar expenditure in the major program areas of municipal concern and the revenue "mix" that provides the necessary economic support

Variables

Finding objective empirical indicators of the municipal political system in Florida proved to be the single most difficult task in this study. The logic used to select these variables and their measurement was detailed earlier, but the variables that were used in the analysis are listed below for easy reference in the discussion that follows. The six political variables used for this analysis include

X_{24} index of openness,

X_{25} voting participation ratio,

X_{26} potential power of the mayor

X_{27} council election type,

X_{28} number of elected administrators (other than the mayor),

X_{29} number of city-owned utilities.

It should again be emphasized that these six variables are primitive attempts at quantifying three phenomena. The first two variables, index of openness (X_{24}) and voting participation (X_{25}) measure two aspects of the operating electoral process. The index of openness assumes that a higher number of candidates will file for office if they perceive that they can be elected on their personal program merits, and the election outcome is not controlled by a clique or political machine. The index of openness is a valid indicator of competitiveness only if this assumption is valid. The index is high if, over time, a high percentage of the registered voters exercise the voting franchise.[1]

Three variables relate to differences in the formal structure of the municipalities. Variable X_{26}, potential power of the mayor, assumes that the actual role of the mayor is determined by certain formal structural arrangements between his position and other counter positions in the municipal environment. Variable X_{27}, council election type, and variable X_{28}, number of elected administrators, are straightforward numerical descriptions of existing structural arrangements in Florida municipalities.

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[1] The traditional electoral variable of party control does not apply in the Florida municipal system. In nineteen of the cities the charter called for nonpartisan elections, in two cities, Jacksonville and Orlando, partisan identification was allowed, but the Democratic "run off" primary traditionally is the contest that determines the winner of the partisan election.

The last variable, X_{29}, number of city-owner utilities, might be termed a dependent variable; but here, although it is a policy output of past political decisions, it is now an input into the municipal system in the present time period.

Hypotheses

In Chapter Two it was hypothesized that the political environment of municipalities accounted for a major portion of the variation in municipal policy. Per capita measures of municipal policy decisions continue to be the dependent variables in this chapter, while the six indicators of political environment discussed earlier in the chapter are used as independent variables. These hypotheses are listed below

P-1. The political environment of the community accounts for a significant amount of variation in per capita expenditure and revenue in Florida municipalities.

a. The more politically competitive a city, the higher the per capita expenditures and revenues are expected to be.

b. The higher the voting turnout in a city, the higher the per capita expenditures and revenues are expected to be

c. The more powerful the mayor is in a city, the higher the per capita expenditures and revenues are expected to be.

d. The higher the number of elected department heads in a city, the lower the per capita expenditures and revenues are expected to be.

e. The higher the proportion of city councilmen elected at large, the higher the per capita expenditures and revenues are expected to be

f. The larger the number of city-owned utilities, the lower the per capita tax revenues and expenditures are expected to be.

Analysis

The simple correlation coefficients among all possible pairs of these political variables were calculated with the results shown in Table 7.1. There is almost no intercorrelation among these independent variables. The two variables that measure the electoral system, X_{24} and X_{25}, show almost no relationship with an r of -.059. The variables that relate to structure show no intercorrelation with simple correlations of .150, .186, and .062. The variable dealing with utility ownership shows a correlation at a statistically significant level with voting participation (r= .486). This might suggest that the management of the semi-autonomous utilities would tend to insert relevant issues into politics at the local level. The statistically significant relationship between

TABLE 7.1

CORRELATION MATRIX OF INDEPENDENT POLITICAL VARIABLES

Variable	X_{24}	X_{25}	X_{26}	X_{27}	X_{28}	X_{29}
X_{24} Openness	1.000	-.059	.162	.336	-.067	-.049
X_{25} Voter participation		1.000	.207	.346	.365	.486
X_{26} Mayor's power			1.000	.150	.186	-.151
X_{27} Council election				1.000	-.062	.605
X_{28} Administrators elected					1.000	-.021
X_{29} Ownership of utilities						1.000

utility ownership and the council election type variable does not present a ready explanation at this point.

The level of correlation between the independent political variables and municipal policy output is not generally at a statistically significant level. These data are provided in Table 7.2. When these data are compared with similar correlation coefficients between socio-economic or demographic data and policy output, it can be seen that the level of the relationship is much lower than for the association analyzed in this chapter.

TABLE 7.2

SIMPLE CORRELATIONS BETWEEN OUTPUT MEASURES AND POLITICAL VARIABLES

Dependent Variables (Per capita)		X_{24}	X_{25}	X_{26}	X_{27}	X_{28}	X_{29}
Y_1	General rev.	127[a]	-068	-281	-225	-081	-163
Y_2	Total tax rev.	078	-011	-226	-265	-080	-299
Y_3	Property tax rev.	122	020	-205	-288	-059	-281
Y_4	Gross receipts tax rev.	270	-180	269	-202	035	-416
Y_5	Intergovernmental rev.	-038	124	-185	-263	245	-327
Y_6	Charges and misc. rev.	136	-108	-160	000	-059	252
Y_7	Total gen. oper. exp	135	294	-246	-003	341	137
Y_8	Total gen. oper. exp. (excluding cap outlay)	009	243	-263	-034	084	329
Y_9	Police expend.	-003	172	182	-141	259	-032
Y_{10}	Fire expend.	088	177	-077	-249	503	-115
Y_{11}	Highway expend.	496	-072	105	293	059	051
Y_{12}	Sewerage expend.	-036	062	-100	-277	221	-421
Y_{13}	Other sanitation expend	-149	-138	-037	-349	064	-250
Y_{14}	Health, welfare & Hosp.	276	168	-108	185	-082	579
Y_{15}	Parks and recreation ex	233	091	-140	-166	-004	-009

[a] Decimal points are omitted.

The stepwise regression procedure was used on these data with variable Y_8, total general operating expenditure (excluding capital outlay), as the primary control variable. In Table 7.3, the independent political variables are listed in the inverse order in which they were deleted by the stepwise procedure. The coefficient of multiple determination (R^2) shown is for the corresponding step in the stepwise procedure. The data in the other columns are for the initial step in the procedure.

TABLE 7.3

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF POLITICAL VARIABLES AND PER CAPITA TOTAL GENERAL OPERATING EXPENDITURES (EXCLUDING CAPITAL OUTLAY), Y_8

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.108	.329	12.577	.472
X_{27} Council elec. type	.194	-.034	-6.785	-.431
X_{24} Openness	.227	.009	6.724	.224
X_{26} Mayor's power	.245	-.264	-5.008	-.212
X_{25} Voter part.	.279	.243	.478	.201
X_{28} Admin. elected	.281	.084	1.605	.048
		intercept 44.476		

The primary dependent variable, total general operating expenditures (excluding capital outlay), is treated in Table 7.3. It is quite evident from these data that the variables used to represent the political environment account for a considerably lower amount of general per capita expenditures than either the demographic variables or the socio-economic variables. The political variables shown here account for only 28.1 percent of the general expenditure level in the twenty-one Florida cities. Two of these variables, number of city-owned utilities and council election type, account for most of this total with an R^2 of .194. The standardized regression coefficients indicate that these two variables, after controlling for intercorrelation, are the two best predictors of the expenditure levels. The operation of each additional utility adds $12.58 to the general operating budget; the election of councilmen by districts seems to be associated with higher expenditures, while the election of councilmen at large is associated with lower expenditures. No relationships shown here are at a level high enough to be significant.

TABLE 7.4

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF POLITICAL VARIABLES AND PER CAPITA TOTAL GENERAL OPERATING EXPENDITURES, Y_7

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.019	.137	2.654	.087
X_{27} Council elec. type	.040	-.033	-4.006	-.224
X_{24} Openness	.096	.135	10.474	.308
X_{26} Mayor's power	.133	-.246	-9.819	-.367
X_{25} Voter participation	.273	.294	.838	.312
X_{28} Admin. elected	.347	.341	11.476	.304
		Intercept	80.055	

In Table 7.4, per capita expenditures of capital outlay are added to the dependent variable and the political variables appear to account for a slightly larger share of the new total expenditure level. The new coefficient of multiple determination is .347. The two best predictors of expenditure policy in Table 7.3, however, become quite insignificant as prediction variables in Table 7.4. Several generalizations can be made from a close comparison of these two tables. First utility ownership is relatively more important for current expenditure levels than it is for capital expenditure levels. This is shown by the difference in the standardized regression coefficient of .472 and .087 in Table 7.3 and Table 7.4, respectively. Second, council election type and the power of the mayor show negative relationships with policy output in both cases. A model charter council-manager system with a weak mayor or no mayor and with a council elected at large is associated with high expenditures, and a strong mayor with no city manager and a council elected from small districts is associated with low expenditure levels. This is not an argument that the observed relationship is necessarily causal, but only that the two phenomena are related. Although the multiple relationships shown here are at a higher level than before, no relationship reaches a level of significance.

Tables 7.5 to 7.10 are presented to show the relationship of the political variables with the various important municipal functional areas of concern. They indicate that the total number of political variables account for a rather small portion of the expenditure levels in the separate program areas. This is particularly important when the coefficients of multiple determination for the political variables are compared to the individual coefficients of multiple determination of demographic or socio-economic variables in each of the functional program areas. Except for the negative association between the numbers of utilities owned and per capita sewerage expenditures shown in Table 7.7, the association between any of the political variables and expenditure levels of any functional program is extremely limited, and in no case does it reach a significant level

TABLE 7.5

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF POLITICAL VARIABLES AND PER CAPITA POLICE EXPENDITURE, Y_9

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.001	-.032	-.532	-.095
X_{27} Council elec. type	.025	-.141	-.522	-.158
X_{24} Openness	.030	-.003	.741	.118
X_{26} Mayor's power	.052	-.182	-1.406	-.284
X_{25} Voter participation	.141	.172	.130	.261
X_{28} Admin. elected	.177	.259	1.487	.213
		Intercept	14.419	

TABLE 7.6

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF POLITICAL VARIABLES AND PER CAPITA FIRE EXPENDITURE . Y_{10}

Indep Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.013	-.115	.009	.002
X_{27} Council elec. type	.064	-.249	-.755	-.347
X_{24} Openness	.108	.088	1.138	.275
X_{26} Mayor's power	.109	.077	.623	-.191
X_{25} Voter participation	.217	.177	.059	.180
X_{28} Admin elected	.294	.504	2.159	.496
	Intercept 7.460			

TABLE 7.7

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF POLITICAL VARIABLES AND PER CAPITA SEWERAGE EXPENDITURES Y_{12}

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.062	-.250	-.118	-.023
X_{27} Council elec. type	.124	-.349	-.882	-.303
X_{24} Openness	.127	-.149	-.346	-.062
X_{26} Mayor's power	.133	.037	.401	.091
X_{25} Voter participation	.134	-.138	-.027	-.061
X_{28} Admin elected	.136	.064	.282	.045
	Intercept 13.517			

TABLE 7. 8

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF POLITICAL VARIABLES AND PER CAPITA OTHER SANITATION EXPENDITURE , Y_{13}

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	062	-.250	- 128	-.023
X_{27} Council elec. type	.124	-.349	-.882	-.303
X_{24} Openness	.127	-.149	-.346	-.062
X_{26} Mayor's power	.133	.037	401	.091
X_{25} Voter participation	.134	- 138	-.027	-.061
X_{28} Admin. elected	.136	.064	.282	.048
		Intercept 13 517		

TABLE 7. 9

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF POLITICAL VARIABLES AND PER CAPITA HIGHWAY EXPENDITURE , Y_{11}

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.003	.052	.455	.077
X_{27} Council elec. type	.111	.293	.627	.181
X_{24} Openness	.264	.496	2,838	.431
X_{26} Mayor's power	264	105	.193	.037
X_{25} Voting participation	.277	- 072	- 113	- 217
X_{28} Admin. elected	.301	.060	1 268	.173
		Intercept 5 103		

TABLE 7.10

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS OF POLITICAL VARIABLES AND PER CAPITA PARKS AND RECREATION EXPENDITURE, Y_{15}

Indep Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.101	-.099	-.615	-.067
X_{27} Council elec. type	.028	-.167	-1.896	-.315
X_{24} Openness	.135	.234	4.055	.395
X_{26} Mayor's power	.150	-.140	-1.720	-.212
X_{25} Voter participation	.213	.091	.280	.345
X_{28} Admin. elected	.219	-.009	-.998	-.087

Intercept 1.525

The program area of health, welfare, and hospitals provides an exception to the above findings. Table 7.11 indicates that the association between political variables and per capita expenditures in this field is much higher than for the other functional areas. Three of the variables--number of utilities city owned, council election type, and the index of openness--account for 58.4 percent of the per capita expenditure level for health, welfare, and hospitals. Previously, the erratic association between this dependent variable and demographic and socio-economic variables was explained as being due to "local custom." Table 7.11 indicates that this explanation does have partial validity. If the political variables are at least partial indicators of local customs, then local customs account for a large portion of the expenditure for this functional area. Recognition of the fact that hospital expenditures are in magnitude the more important expenditure item in this area might provide some additional insight. The association between the number of city owned utilities and this dependent variable is rather high, $R^2 = .335$. Cities that own and operate most of the local utilities, e.g., water, electricity, gas, busline, etc., also tend to operate an additional utility, a municipal hospital. If, however, utilities in the community tend to be privately owned and operated, then a hospital will not operate as a public service by the community. This is left to the county, a special district, or to private enterprise.

When revenue categories replace expenditure categories as dependent variables, very little difference in the importance of the political variables is noted, as shown in Tables 7.12-7.17. With one exception the coefficient of multiple determination does not exceed .295. The one exception is shown in Table 7.16, where the relatively insignificant category of intergovernmental revenue and political variables have an R^2 of .360, but even this is not at the statistically significant level. Essentially the political variables, as was the case with expenditures, are not reliable predictors of revenue policy in Florida municipalities.

TABLE 7.11

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR POLITICAL VARIABLES AND PER CAPITA HEALTH, WELFARE, AND HOSPITAL EXPENDITURE, Y_{14}

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.335[b]	.579	12.470	1.015
X_{27} Council elec. type	.379[a]	.185	-4.222	-.581
X_{24} Openness	.584[b]	.276	6.703	.500
X_{26} Mayor's power	.586[b]	-.107	.937	.086
X_{25} Voter participation	.595[a]	.168	-.106	-.097
X_{28} Admin. elected	.597[a]	-.082	-.684	-.044
		Intercept	-42.052	

[a] F test significant at the .05 level.

[b] F test significant at the .01 level.

TABLE 7.12

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR POLITICAL VARIABLES AND PER CAPITA GENERAL REVENUE, Y_1

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.027	-.163	-4.647	-.132
X_{27} Council elec. type	.065	-.255	-6.546	-.315
X_{24} Openness	.121	.127	11.171	.283
X_{26} Mayor's power	.190	-.281	-10.178	-.327
X_{25} Voter participation	.217	-.048	.789	.252
X_{28} Admin. elected	.228	-.081	-5.096	-.116
		Intercept	105.495	

TABLE 7.13

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR POLITICAL VARIABLES AND PER CAPITA TAXES, Y_2

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.089	-.299	-13.443	-.459
X_{27} Council elec. type	.100	-.265	-2.452	-.141
X_{24} Openness	.116	.079	5.566	.169
X_{26} Mayor's power	.181	-.226	-9.141	-.352
X_{25} Voter participation	.254	-.011	1.058	.405
X_{28} Admin. elected	.278	-.080	-6.224	-.170
		Intercept 87.203		

TABLE 7.14

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR POLITICAL VARIABLES AND PER CAPITA PROPERTY TAX, Y_3

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.079	-.281	-9.054	-.166
X_{27} Council election type	.101	-.288	-3.712	-.259
X_{24} Openness	.141	.122	6.931	.254
X_{26} Mayor's power	.188	-.205	-6.882	-.320
X_{25} Voter participation	.274	.020	.934	.433
X_{28} Admin. elected	.295	-.059	-4.984	-.164
		Intercept 36.921		

TABLE 7 15

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR POLITICAL VARIABLES AND PER CAPITA GROSS RECEIPTS TAX, Y_4

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	173	-.416	-3.580	-.256
X_{27} Council elec. type	177	-.202	-1.324	-.160
X_{24} Openness	.239	.270	4.352	277
X_{26} Mayor's power	.278	.269	2.687	.217
X_{25} Voter participation	279	-.180	-.039	- 031
X_{28} Admin. elected	.279	035	.151	.008
		Intercept	9.001	

TABLE 7 16

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR POLITICAL VARIABLES AND PER CAPITA INTERGOVERNMENTAL REVENUE, Y_5

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.107	-.327	-1 758	- 607
X_{27} Council elec. type	.113	- 263	020	.011
X_{24} Openness	114	- 038	080	.024
X_{26} Mayor's power	163	-.185	-1.032	-.402
X_{25} Voter participation	343	.124	.115	446
X_{28} Admin. elected	360	.245	531	146
		Intercept	7 510	

TABLE 7.17

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR POLITICAL VARIABLES AND PER CAPITA CHARGES AND MISCELLANEOUS REVENUE, Y_6

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{29} Utility ownership	.064	.252	11.070	.347
X_{27} Council elec. type	.100	.001	-3.862	-.086
X_{24} Openness	.172	.136	5.476	.280
X_{26} Mayor's power	.176	-.160	.0008	.000
X_{25} Voter participation	.224	-.108	-.450	-.291
X_{28} Admin. elected	.226	-.059	1.211	.055

Intercept 11.083

Summary

Despite the overall lack of strong association between policy and the political variables used here, some variables are more valuable predictors of policy than are others. Table 7.18 presents a summary of the rank order, direction of association (negative or positive), and the level of significance between the political variables and the individual dependent variables. This rank was determined by the relative numerical value of the standardized regression coefficient for each dependent variable.

Variable X_{25}, index of voter participation, is overall the best predictor of municipal policy. The association is generally positive with high voter turnout associated with both higher expenditure and revenue levels. There is some slight support for the proposition that when large numbers of voters participate in the electoral decision-making process, they support high expenditure levels and the corresponding high tax level.

The potential power of the mayor, variable X_{26}, is the second most reliable predictor of municipal policy. Potentially strong mayors tend to be weakly associated with higher expenditure levels as well as with higher revenue levels in most individual categories.

At about the same level of predictive value is the degree of openness perceived by potential political candidates in the municipal system, variable X_{24}. The more open systems tend to be weakly associated with both higher expenditure and revenue levels.

Variable X_{27}, council election type, is also at about the same level for predictive purposes. City councils elected at large tend to be slightly associated both with low expenditures and low revenues.

TABLE 7.18

PREDICTIVE POWER IN RANK ORDER OF POLITICAL VARIABLES FOR EACH DEPENDENT VARIABLE

Dependent Variable (Per Capita)		Independent Variables X_{24}	X_{25}	X_{26}	X_{27}	X_{28}	X_{29}
Y_1	General Revenue	3	4	-1	-2	-6	-5
Y_2	Total Taxes	5	2	-3	-6	-4	-1
Y_3	Property Tax	4	1	-2	-3	-6	-5
Y_4	Gross Receipts Tax	1	-5	3	-4	6	-2
Y_5	Intergovernmental Revenue	5	2	-3	6	4	-1
Y_6	Charges & Misc. Revenue	3	-2	6	-4	5	1
Y_7	Total Operating Expend	3	2	-1	-5	4	6
Y_8	Total Operating Expend. (Excluding Capital Outlay)	3	5	-4	-2	6	1
Y_9	Police Expenditure	5	2	-1	-4	3	-6
Y_{10}	Fire Expenditure	3	5	-4	-2	1	6
Y_{11}	Highway Expenditure	1	-2	6	3	4	5
Y_{12}	Sewerage Expenditure	-6	2	-3	5	4	-1
Y_{13}	Other Sanitation Expend.	-3	-4	2	-1	5	-6
Y_{14}	Health, Welfare & Hosp.	3^b	-4^a	5^b	-2^a	-6^a	1^b
Y_{15}	Parks & Recreation Expend.	1	3	-4	-2	-6	-5
	Totals	49	45	48	51	70	52

^{a}F test significant at the .05 level

^{b}F test significant at the .01 level

The number of city owned utilities, variables X_{29}, is about equal to the above in predictive value. This variable is associated with high current expenditures, but with low expenditure levels for those program areas that require large capital expenditure levels, e. g., sewerage, parks and recreation, etc. Generally the cities with larger numbers of utilities can be expected to have lower revenue levels. This is to be expected in these data as only profits turned over to the general fund are included as municipal revenue in the charges and miscellaneous charges category, and no accounting is made for the considerably larger gross receipts from utility operations.

Variable X_{28}, the number of administrators elected by the citizens of the municipality, does not appear to be an indicator of sufficient value to be included in any subsequent study of Florida municipal policy.

As in previous chapters, the material obtained from the detailed analysis is used to test the stated hypotheses. These are summarized below.

P-1. The political environment of the community accounts for a significant amount of variation in per capita expenditure and revenue in Florida municipalities.

a. The more politically competitive a city, the higher the per capita expenditures and revenues are expected to be.

b. The higher the voting turnout in a city, the higher the per capita expenditures and revenues are expected to be.

c. The more powerful the mayor is in a city, the higher the per capita expenditures and revenues are expected to be.

d. The higher the number of elected department heads in a city, the lower the per capita expenditures and revenues are expected to be.

e. The higher the proportion of city councilmen elected at large, the higher the per capita expenditures and revenues are expected to be.

f. The larger the number of city owned utilities, the lower the per capita tax revenues and expenditures are expected to be.

None of these hypotheses can be accepted as valid. The data presented in Tables 7.3, 7.4, and 7.12 all show that statistically insignificant amounts of variation in the dependent variables are accounted for by the independent variables used in this Chapter.

The chapter may be summarized in the following way. Political variables, as measured in this study, do not account for a significant portion of the per capita revenue and expenditure levels in Florida municipalities. Demographic and socio-economic variables will predict a larger portion of the policy level, but between 20 and 30 percent of the expenditure and revenue levels can be predicted from the regression equations used in this analysis.

CHAPTER VIII

CONCLUSION

An Overall View

For purposes of summary, this study may be divided into four overlapping sections. None of these sections in their present form may stand alone. An isolated chapter really will not do an adequate job of enlightening the reader on any one aspect.

The first section is contained in Chapter One. In that section, a model was postulated. This model, it was suggested, may or may not reflect the on-going political system, but it was hoped that it contained enough of a base in reality to explain adequately a real operating system, as well as to predict the consequences of a particular configuration of elements in the real political system.

A further description of this model is contained in Chapter Two, which comprises the second section of this study. This section reports what other researchers have found by testing hypotheses about similar, although not identical, models. Taking these published sources into account, assumptions were made about the operation of the political variables that are used in operationalizing the model. Considering the model, past research, assumptions about the real world, and variables for which data were available to the researcher, hypotheses were set forth for testing. Three major hypotheses were listed, along with appropriate subhypotheses. These hypotheses are general, and they simply state a tentative prediction about the relationships among variables. It would, of course, be possible to state several hundred separate hypotheses in this case, but this is not necessary in order to test the reliability of the model suggested earlier. The main question in this study is whether or not a particular model comprehends some aspect of reality in the political system. The actual strength of the relationship among variables is not of primary interest here. The second section closes with a description of the methods that were used to test the given hypotheses.

The third section comes closer to standing alone than the preceding or following parts of the research report. This section is comprised of Chapters Three and Four, and it may be described as merely a report of information on spending for and funding of municipal services in Florida metropolitan areas. It was felt that, although the information is not necessary for the testing of the model, it does add to the meager store of information on city finance.

The fourth section is made up of Chapters Five, Six, and Seven. It is in this section that the actual testing of the hypotheses is attempted, and the more significant interactions among the variables are discussed. It was found in general that the hypotheses--tentative predictions about relationships among variables--can be accepted. Therefore, the model can be accepted as at least a partial description of the real political system operating in Florida metropolitan areas.

Study Shortcomings

Despite the fact that the research reported above was able to show quite convincingly that municipal policy output in Florida metropolitan areas tends to be a function of a few key measurable environmental variables, there are still some unanswered questions. Much of this uncertainty is due to the lack of data for past years in the cities studied. Several authors have shown that one of the most important predictors of budgetary allocations in governmental agencies is past budgetary requests. The theory of incrementalism holds that future budgetary expectations may be calculated from past budgetary allotments.[1] This theory is certainly not without merit, but there is not a sufficient amount of data over time in the cities studied here to test this theory. Data for two time periods were compared in Chapters Three and Four, however, and it was found that there was no apparent tendency for budgets in all functional areas to increase every year. Indeed, there was considerable difference in the percentage increase in 1965 over the base budgetary year of 1960 for several functional areas. Future research might be able to do more with this problem after the 1970 census reports have been tabulated.

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[1] See Aaron Wildavsky, The Politics of the Budgetary Process (Boston: Little, Brown and Co., 1964), Thomas J. Anton, The Politics of State Expenditure in Illinois (Urbana: University of Illinois Press, 1966), Ira Sharkansky, Spending in the American States (Chicago: Rand McNally and Co., 1968), and John P. Crecine, Governmental Problem Solving: A Computer Simulation of Municipal Budgeting (Chicago: Rand McNally and Co., 1969).

A second major problem is not unique to this study, but this is a problem that is present whenever correlation analysis is used. That problem involves two aspects of measurement collinearity and proxy variables. Multicollinearity exists when two or more variables that are included in the analysis measure the same thing. Through the use of regression analysis the worst aspects of this problem may have been avoided, but one is never completely sure.[2] Proxy variables exist when it is assumed that a variable measures one phenomenon, but it is really only an indicator of a more basic, but only partially measured, variable. More sophistication in both analytic and data gathering techniques is needed to overcome this problem.

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[2] For a discussion of multicollinearity see Dennis J. Palumbo, Statistics in Political and Behavioral Science (New York: Appleton-Century-Crofts, 1969), pp. 214-216.

The use of regression analysis is the source of a third potential problem in research of this nature. In regression analysis it is necessary to specify in advance the independent variables and the dependent variables. There is sometimes a suspicion that the wrong choices are made. This may have happened in the research reported in this study. Political variables were assumed to be predictors (independent variables) of municipal policy, but they may well be dependent variables. In other words, politics and political structure may be a function of the same few key environmental variables that were discussed in Chapters Five and Six. This remains as an untested hypothesis, however, and not a statement of fact.

Major Findings

The explanatory model can best be evaluated by summarizing its powers of explanation. One writer in the field has stated this in the form of a question: "To what extent can policy differences . . . be explained by reference to the model?"[3] If a large amount of variation can be explained by the model, then it can be assumed that the model postulated earlier is a correct representation of the operating system.

The coefficients of multiple determination (R^2) for the 15 dependent variables are shown in the left hand column of Table 8.1. It is assumed that these dependent variables are measures of policy outcomes in the governmental systems studied. These coefficients indicate the effect of the twenty-one independent variables on each policy outcome that is measured by the dependent variables. In all cases, over 90.3 percent of the variation in policy is accounted for by the variables used in the operationalization of this model. These extremely high coefficients indicate that the explanatory power of the model is very high. The systems model used here for policy analysis is a substantial tool for explaining the variation in policy differences among Florida municipalities.

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[3] Thomas R. Dye, Politics, Economics, and the Public: Policy Outcomes in the American States (Chicago: Rand McNally and Co., 1966), p. 284.

Table 8.1 shows that the best set of variables for the prediction of municipal policy is that identified as socio-economic variables. The fact that ten variables, operationalized by data available in published census documents, will predict such a high percentage of variation in municipal policy output is not inconsequential.

The second best set of variables used for the prediction of policy is the set designated as demographic variables, consisting of five variables also operationalized from data available in published census documents. In most cases these data will also do a reliable job of predicting municipal policy output. This, too, is a significant finding

TABLE 8-1

A COMPARISON OF THE EFFECTS OF DEMOGRAPHIC, SOCIO-ECONOMIC, AND POLITICAL VARIABLES ON POLICY OUTCOMES IN 21 FLORIDA CITIES WITH 1960 POPULATIONS OVER 25,000

Dependent Variables	Total Effect of all Variables	Total Effect of Demographic Variables	Total Effect of Socio-economic Variables	Total Effect of Political Variables
Total General Revenue	1.000	658	737	228
Total Tax Revenue	.999	.734	.820	.278
Property Tax Revenue	.998	.811	.865	.295
Gross Recpts Tax Rev	957	266	415	.279
Charges & Misc. Rev.	989	149	502	226
Intergovernmental Rev	.999	089	665	360
Total General Expend	.986	.374	.622	.347
Total General Expend. (Excluding Cap Outlay)	1.000	.502	807	.281
Police Expenditure	999	.559	.619	.177
Fire Expenditure	984	.356	.562	.394
Sewerage Expenditure	986	.249	441	363
Other Sanitation Exp	999	418	370	136
Parks & Rec. Expend	991	.651	668	219
Highway Expenditure	903	.427	.367	301
Health, Welfare & Hospital Expenditure	.994	029	673	597

The right hand column in Table 8.1 gives the coefficients of multiple determination of the total effect of the political variables on municipal policy output in the 21 cities studied. A comparison of these coefficients with the coefficients listed for demographic variables and socio-economic variables shows that in almost all cases the effect of the political variables is less than the effects of the other sets of variables. The relative value of these coefficients can mean one of two things or a combination of the two explanations. One, the political variables as they were operationalized in this research did not adequately measure the political system. Two, the political variables are not as important as the other two sets of variables. The first of these explanations may seem somewhat attractive, but one must remember that the operationalization of the demographic and socio-economic variables may also leave something to be desired.

Considering the fact that all twenty-one independent variables used in this study were able to predict almost all of the variation in municipal policy output, it must be assumed that the model as postulated earlier is a reasonably good representation of the operating municipal system in Florida. It can then be seen that the environmental factors of demography and socio-economic status of individuals in the system are excellent predictors of municipal policy. Measures of political variables in turn are not good predictors of municipal policy. In other words municipal policy is a function of the community environment, not a function of the politics of the community.

This conclusion is reinforced by the data in Tables 8.2 and 8.3 below. The two best summary measures of municipal policy are per capita total governmental expenditure (excluding capital outlay), Y_8, and per capita total general revenue, Y_1. The importance of environmental variables on these important indicators of municipal policy are shown below.

TABLE 8.2

COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SELECTED ENVIRONMENTAL VARIABLES AND PER CAPITA TOTAL GENERAL EXPENDITURE (EXCLUDING CAPITAL OUTLAY), Y_8

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent White Collar	.285	.534	5.542	1.976
X_8 Percent Negro	.428	-.053	2.010	.977
X_6 Median Age	.703	.452	1,766	.522
X_{23} Social Class	.875	.338	-3.467	-1.075
		intercept -45.66		

TABLE 8.3

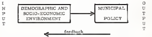
COEFFICIENTS OF MULTIPLE DETERMINATION, SIMPLE CORRELATION, AND REGRESSION COEFFICIENTS FOR SELECTED ENVIRONMENTAL VARIABLES AND PER CAPITA TOTAL GENERAL REVENUE, Y_1

Indep. Variables	Coefficient of Multiple Determination R^2	Simple Correlation r	Regression Coefficient b	Standardized Regression Coefficient B
X_{13} Percent White Collar	.428	.654	3.604	.978
X_8 Percent Negro	.428	-.429	1.243	.463
X_6 Median Age	.874	.776	3.387	.760
X_{23} Social Class	.887	.500	-1.231	-.290
	Intercept -128.038			

When controls are made for the effect of other variables on municipal output, four variables--percent white collar employees in the work force, percentage of the total population that are Negro, median age of the total population, and an indicator of social class--are able to account for 87.5 percent of the variation in general municipal expenditure. These same four variables account for 88.7 percent of the variation in the general revenue of the cities studied. All of these predictive (independent) variables appear to be the result of a particular spatial distribution of citizens in the community.

Considering this finding, it must be assumed that the model postulated in Chapter One will predict municipal policy. That model, however, can be simplified, as shown below

Figure 1. Predictive Model for Municipal Policy



Several other interesting insights into the political process were discovered as a result of the original research. These may be summarized as shown below.

1. In general, demographic and socio-economic variables are able to predict most of the variation in per capita expenditure and revenue categories (hypotheses D-1 and S-1)

2. In general, political variables are not good predictors of variation in per capita expenditure and revenue categories (hypothesis P-1).

3. The following variables generally show positive relationships with per capita expenditure and revenue categories

(a) openness of the political system,

(b) high voting participation,

(c) higher than average number of elected department heads,

(d) high percentage of negroes in the population,

(e) high percentage of foreign born in the population,

(f) high median education in the population,

(g) high percentage of the work force in white collar occupations,

(h) high family income,

(i) high amount of manufacturing activity in the community,

(j) high percentage of housing units occupied by owners,

(k) high median home value,

(l) high median age in the population,

(m) high concentration of population per square mile, and

(n) large city area.

4. The following variables generally show negative relationships with per capita expenditure and revenue categories:

(a) the strong-mayor structural arrangement,

(b) the tendency of the council to be elected in districts,

(c) high number of municipally operated utilities,

(d) high urbanization,

(e) high social class score,

(f) rapid growth rate, and

(g) large total population.

Summary

The analysis that was carried out in the previous chapters indicated that differences in spending and revenue policies in Florida cities could be accounted for by the differences in measurable environmental variables. This is the author's preferred explanation, and this explanation validates several major hypotheses that were previously postulated. The analysis may be interpreted in another way. The alternate interpretation would hold that the analysis failed to find significant differences in spending and revenue policies among the cities studied that could not be accounted for by the differences in measurable environmental variables. Which leads to the conclusion that when similar forces are acting upon cities, the decision-makers are reacting in similar ways. This suggests that cities are not really independent entities, but rather they are subsystems subject to much the same variables operating throughout the macrosystem. Municipal planners associated with the field have already suggested this approach:

> We will analyse the data beyond municipal jurisdiction because the city today, from the point of view of the individual doesn't really exist. We live in one city, we work in another, the kids go to school in a third, the wife goes shopping in a fourth. As a municipality the city doesn't have operational significance to the inhabitants. What does have operational significance is the daily urban system--an area to which a significant number of the population turns for transportation, commercial and communications influence.[4]

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[4] James W. Singleton, "D-SDC: Plans and Prospects," SDC Magazine XII, No. 10 (December, 1969), 17.

The alternate explanation, however, must be rejected because the research undertaken here did not establish any formal system relationships among political, social, economic, etc. variables. This is not to say that there are no relationships, only that this research did not find them.

The important aspects of the analysis in the study, however, do not change with either interpretation Measurable variables in the cities, whether the cities form a system or a number of systems, predict policy on the municipal level

APPENDIX

Municipal Governments, by Population Size, by States 1967

Area	Total	300,000 or more	200,000 to 299,999	100,000 to 199,999	50,000 to 99,999	25,000 to 49,999	10,000 to 24,999	5,000 to 9,999	2,500 to 4,999	1,000 to 2,499	Less than 1,000
United States, Total	18,048	44	19	67	184	369	986	1,295	1,791	3,554	9,739
Regions											
Northeast	2,136	7	3	19	47	83	214	301	321	487	654
North Central	8,304	13	4	18	56	120	339	434	622	1 445	5,253
South	5,630	14	9	19	46	92	271	401	623	1,241	2,914
West	1,978	10	3	11	35	74	162	159	225	381	918
States											
Alabama	359	1	1	1	3	8	15	25	51	62	192
Alaska	51	-	-	-	-	1	1	2	2	11	34
Arizona	62	1	1	-	-	1	7	8	11	23	10
Arkansas	423	-	-	1	2	3	12	19	28	57	301
California	400	5	1	8	27	48	89	63	77	56	26
Colorado	251	1	-	-	2	5	9	12	16	41	165
Connecticut	34	-	-	4	4	7	7	2	3	5	2
Delaware	52	-	-	-	1	-	1	3	5	14	28
Dist of Columbia	1	1	-	-	-	-	-	-	-	-	-
Florida	383	-	3	1	6	12	27	42	54	75	163
Georgia	512	1	-	2	3	5	21	26	55	110	289
Hawaii	1	1	-	-	-	-	-	-	-	-	-

Area	Total	300,000 or more	200,000 to 299,999	100,000 to 199,999	50,000 to 99,999	25,000 to 49,999	10,000 to 24,999	5,000 to 9,999	2,500 to 4,999	1,000 to 2,499	Less than 1 000
Idaho	194	-	-	-	-	3	6	4	15	32	134
Illinois	1,256	1	-	2	12	25	75	87	118	232	704
Indiana	550	1	-	5	3	10	27	36	52	123	293
Iowa	945	-	1	-	6	7	11	32	47	133	708
Kansas	623	-	1	2	-	5	21	17	40	93	444
Kentucky	359	1	-	-	2	5	11	22	42	89	187
Louisiana	270	1	1	1	2	4	18	23	35	68	117
Maine	21	-	-	-	1	2	9	5	4	-	-
Maryland	151	1	-	-	-	3	7	12	14	42	72
Massachusetts	39	1	-	4	14	16	4	-	-	-	-
Michigan	522	1	-	4	14	20	36	40	66	135	206
Minnesota	850	2	-	1	1	7	28	40	50	137	584
Mississippi	268	-	-	1	-	7	10	20	24	62	144
Missouri	856	2	-	-	4	6	25	43	64	127	585
Montana	125	-	-	-	2	2	5	5	12	34	65
Nebraska	538	1	-	1	-	1	8	13	19	68	427
Nevada	17	-	-	-	2	-	3	2	4	4	2
New Hampshire	13	-	-	-	1	3	6	3	-	-	-
New Jersey	335	1	1	4	8	22	59	76	74	48	42
New Mexico	88	-	1	-	-	5	6	10	9	19	38

Area	Total	300,000 or more	200,000 to 299,999	100,000 to 199,999	50,000 to 99,999	25,000 to 49,999	10,000 to 24,999	5,000 to 9,999	2,500 to 4,999	1,000 to 2,499	Less than 1,000
New York	616	3	1	4	7	17	51	71	94	171	197
North Carolina	437	-	1	2	4	7	21	26	45	108	223
North Dakota	357	-	-	-	-	4	3	5	3	49	293
Ohio	933	4	2	2	10	22	76	78	100	188	451
Oklahoma	522	1	1	-	1	5	18	26	36	81	353
Oregon	222	1	-	-	1	1	11	17	24	40	127
Pennsylvania	1,005	2	-	3	9	12	75	138	142	246	378
Rhode Island	8	-	1	-	3	3	1	-	-	-	-
South Carolina	259	-	-	-	3	3	9	26	25	59	134
South Dakota	306	-	-	-	1	1	6	4	13	36	245
Tennessee	297	2	-	2	-	4	16	22	34	62	155
Texas	883	4	1	6	10	19	62	79	127	232	343
Utah	213	-	-	1	1	1	5	14	14	43	134
Vermont	65	-	-	-	-	1	2	6	4	17	35
Virginia	229	1	1	2	6	3	15	16	23	51	111
Washington	267	1	-	2	-	5	17	19	30	65	128

Area	Total	300,000 or more	200,000 to 299,999	100,000 to 199,999	50,000 to 99,999	25 000 to 49,999	10,000 to 24,999	5,000 to 9,999	2,500 to 4,999	1,000 to 2,499	Less than 1,000
West Virginia	225	-	-	-	3	4	8	14	25	69	102
Wisconsin	568	1	-	1	5	12	23	39	50	124	313
Wyoming	87	-	-	-	-	2	3	3	11	13	55

Note: Numbers in this tabulation will differ from the number of incorporated places shown in the 1960 Census of Population because the figures here (1) exclude incorporated places having no operating municipal governments, (2) exclude places disincorporated since April 1, 1960, and (3) include places incorporated since April 1, 1960. Municipalities incorporated since April 1, 1960, have been distributed by size group on the basis of special censuses or, in the absence of a special census, on the basis of estimated population.

Source: U. S. Bureau of the Census, Census of Governments, 1967, Vol 1, Governmental Organizations (Washington, D. C.: U. S. Governmental Printing Office, 1968), p. 36.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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